

# The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1827.—VOL. XL.

London, Saturday, August 27, 1870.

(WITH SUPPLEMENT) { STAMPED ... SIXPENCE.  
{ UNSTAMPED .. FIVEPENCE.

MR. JAMES CROFTS, STOCK AND SHAREBROKER,  
No. 1, WING LANE, CORNHILL.  
(ESTABLISHED 1842.)

HOLDERS OF mining shares DIFFICULTY OF SALE in the open market may find purchasers for the same through Mr. CROFTS' agency. Also parties requiring advice how to act in the disposal or abandonment of doubtful mining stocks may profitably avail of Mr. CROFTS' long experience on the market in all cases of doubt or uncertainty, legal or otherwise.

ROCHE CONSOLS.—A splendid improvement has taken place at this mine. A new rich tin lode has been cut in the shaft. Mr. CROFTS RECOMMENDS THE IMMEDIATE PURCHASE of these shares.

Every description of shares BOUGHT and SOLD at NET prices.

Bankers: Metropolitan Bank.

MR. W. H. BUMPUS, STOCK AND SHAREDEALER,  
44, THREADNEEDLE STREET, LONDON, E.C., has FOR SALE the following SHARES, free of commission:—

50 Anglo-Austral., 15s 9d	50 Frontino, 12s. 9d.	25 Sweetland Ck., £3 3s 9d	30 So. Condurrow, 22s.	West Seton.	West Great Work.
25 Australian., 23s 6d	60 Gen. Brazilian, 14s 6d	60 Taquaril, 18s. 9d. pm.	50 Minera.	Minera.	East Seton.
15 Ashton., £5 1/2.	5 Great Laxey, £18 2s.	5 Tankerville, £15 1/2.	5 Great Western.	Great Western.	Trumpet Consols.
20 Bwadrain Consols., 3 1/2.	25 Great North Laxey.	20 Tan-yr-Alt., £3 1s. 3d.	West Lovell.	East Lovell.	
10 Bwch Consols., 2 1/2.	5 Great Vor., £8 3s 5d.	25 Van Consols., £2 11s 3d			
20 Bronfod, 22s 1/2.	20 Lovell Con. (offer wtd.)	5 Wt. Chiverton, £5 1/2.			
20 Caegynon., £1 1/2.	10 Marke Valley, £7 1/2.	50 West Maria, 35s. 9d.			
20 Caldebeck Fells, 27s 6d	20 New Lovell.	30 W. Pant-y-Go, 17s. 6d.			
40 Carn Camborne, 29s 3d	40 No. Treskerby, 6s. 3d.	20 W. Tankerville, £2 2s.			
75 Chontales, 13s. 9d.	10 Penrhyn, £1 18s. 9d.	25 West Caradon, 28s.			
15 Don Pedro., £2 pm.	20 Pacific, £2 18s. 9d.	40 Wt. Crebor, 13s. 9d.			
20 Drake Walls, 25s. 9d.	50 Prince of Wales.	10 Wheal Grenville.			
2 Devon Consols., £8 1/2.	10 Plymimmon, £2 6s 3d	20 Wt. Drake Walls, 6s 3d			
10 East Caradon, £4 8s 9d	50 Perkins Beach (offer wtd.)	15 Wheal Agar.			
5 East Lovell., £3 2s.	70 Yudanamutana, 11s 3d				
15 Frank Mills., 22 1/2.	50 Pen-Alt., 32s. 6d.				
W. H. B. transacts business in every description of shares at the best market prices, and free of commission.					

Daily Price-List free on application.

Bankers: The Metropolitan Bank (Limited), Cornhill, E.C.

JOHN RISLEY, (SWORN) STOCK AND SHAREBROKER,  
48, THREADNEEDLE STREET, LONDON, E.C.  
J. R. is a BUYER of Wheal Grenville, East Grenville, Wheal Crebor, at 10s., and West Caradon shares.

Bankers: London and Westminster, Lothbury.

MR. Y. CHRISTIAN, STOCK AND SHAREDEALER,  
11, ROYAL EXCHANGE, E.C.  
Bankers: Bank of England.

MR. T. A. MUNDY, STOCK AND SHAREDEALER,  
33, BISHOPSGATE STREET WITHIN, E.C.  
Bankers: City Bank.

MR. JOHN MOSS, STOCK AND SHAREDEALER,  
ST. MICHAEL'S CHAMBERS, 42, CORNHILL, E.C.  
Bankers: City Bank, Finch-lane, E.C.

MR. C. A. POWELL, BRITISH AND FOREIGN STOCK AND SHAREDEALER, No. 1, PINNER'S COURT, OLD BROAD STREET, LONDON, E.C.  
SPECIAL BUSINESS in Taguari, Pacific, Sweetland Creek, and Frontino Banks.

MESSRS. A. STUART AND CO., 93, BISHOPSGATE STREET WITHIN, LONDON, E.C.

Established upwards of Twenty Years in Cornwall and London.

MR. J. R. PIKE, STOCK AND SHAREDEALER,  
3, CROWN CHAMBERS, THREADNEEDLE STREET.

MR. WILLIAM SEWARD, STOCK AND MINING SHARE BROKER, 19, THROGMORTON STREET, LONDON, E.C.  
Every description of shares BOUGHT and SOLD at the best market prices.

MESSRS. J. HUME AND CO., STOCK AND SHARE BROKERS, 74, OLD BROAD STREET, LONDON, E.C., have FOR SALE:—

10 East Lovell., 5 Tincroft.  
10 Tankerville, £15 1/2.  
10 W. Tankerville, £2 12s 9d.  
1 Seton., 50 T-quadri.

SPECIAL BUSINESS in Seton, Agar, East Lovell, and Taguari.

Bankers: The London Joint Stock Bank.

MR. W. TREGEELLAS, 122, BISHOPSGATE STREET WITHIN, E.C., DEALS in all descriptions of STOCKS and SHARES. W. T., having first introduced the TAGUARI GOLD MINING COMPANY, consultates his friends who upon his advice hold shares. The accounts by the all this week show unmistakeably that, even if no further discoveries are made, Taguari will be the richest mine in Brazil. W. T., being long resident in Brazil, knows the property well, and he has no hesitation in saying that in little time enormous profits will be realised, whilst further important discoveries are certain. W. T. is prepared to do business in the shares to any extent.

ENDEAN AND CO., STOCK AND SHAREDEALERS, BRITISH AND FOREIGN STOCK, SHARE, and MINING OFFICES, 85, GRACECHURCH STREET, LONDON, E.C.

We specially invite the attention of investors and capitalists to the GEIFRON MINING COMPANY, advertised in this Journal to-day. The property is a bond one, having the Van lode running entirely through it, with levels driven, the lode cut, and raising ore worth £18 to £20 per ton, a further improvement being daily expected; and it is likely to be the great centre of attraction in the Van district. From the numerous applications for shares from all parts of the country, it will be a great success. Every investor desirous of making money should apply for shares. A prospectus, plans, and forms of application can be had at this office.

ABERDAUNANT.—We strongly advise their purchase.

TERRA TIN.—In the course of next week Mr. ENDEAN will accompany several

gentlemen from London to the mine, and on his return will be glad to supply

any information touching the property.

All kinds of marketable stock dealt in for cash or account.

MR. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S, BISHOPSGATE STREET, LONDON, E.C. (Established 16 years), has FOR SALE the FOLLOWING SHARES, at net prices:—

50 Australian Unit., 500 Foreside and Tonkin United.

50 Ashton., £5 1/2.

20 Bwadrain Cons., 20s.

20 Caldebeck Fells, 26s.

20 Caegynon., 20s. 9d.

20 Chontales, 13s. 3d.

20 Drake Walls, 25s.

20 Don Pedro., £1 22s.

20 East Seton., 20s. 3d.

20 Frank Mills., £2 14s.

20 Frontino., 13s. 3d.

20 Gorseid., 50 Drake Walls, & Spearman Moor, 2 Prov.

20 H. B. COCK.—50 Drake Walls, & Spearman Moor, 2 Prov.

20 L. B. BUDGE.—50 Drake Walls, & Spearman Moor, 2 Prov.

20 Lisburne, 2 Minera, 3 South Darren, 15 Marke Valley, 5 West Chiverton, 50 Van Consols., 5 Van, 32 Trevrakk, 10 Wheal Kitty (St. Agnes).

10 Wheal Seton, 1 Dolcoath, 10 New Pembroke, 50 Plymimmon, 50 New Wheal Charlotte, 30 Bwch Consols., 10 Wheal Ida, 5 Taguari, 100 Nanteos Consols., 50 East New Wheal Falls, 40 Wheal Agar, 100 Taguari, 13s. Anglo-Brazilian, 200 Rossa Grande, 50 Great Vor., 100 Pen-Alt., 32s. 6d.

MR. BUDGE advises investors to secure an interest in Bwadrain Consols. He

states that he does not know another mine making equal returns, and

by opening such reserves, or so favourably situated, the shares of which are

likely to anything like the price. There were sold on the 23d last, 30 tons of

ore.

MR. G. BUDGE, STOCK AND SHAREDEALER, 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established 31 years), is a SELLER at net prices of:—

Lisburne, 2 Minera, 3 South Darren, 15 Marke Valley, 5 West Chiverton,

10 Wheal Seton, 1 Dolcoath, 10 New Pembroke, 50 Plymimmon, 50 New Wheal Charlotte, 30 Bwch Consols., 10 Wheal Ida, 5 Taguari, 100 Nanteos Consols., 50 East New Wheal Falls, 40 Wheal Agar, 100 Taguari, 13s. Anglo-Brazilian, 200 Rossa Grande,

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**GWYNNE AND CO., ENGINEERS,**  
**ESSEX STREET WORKS, STRAND, LONDON, W.C.**

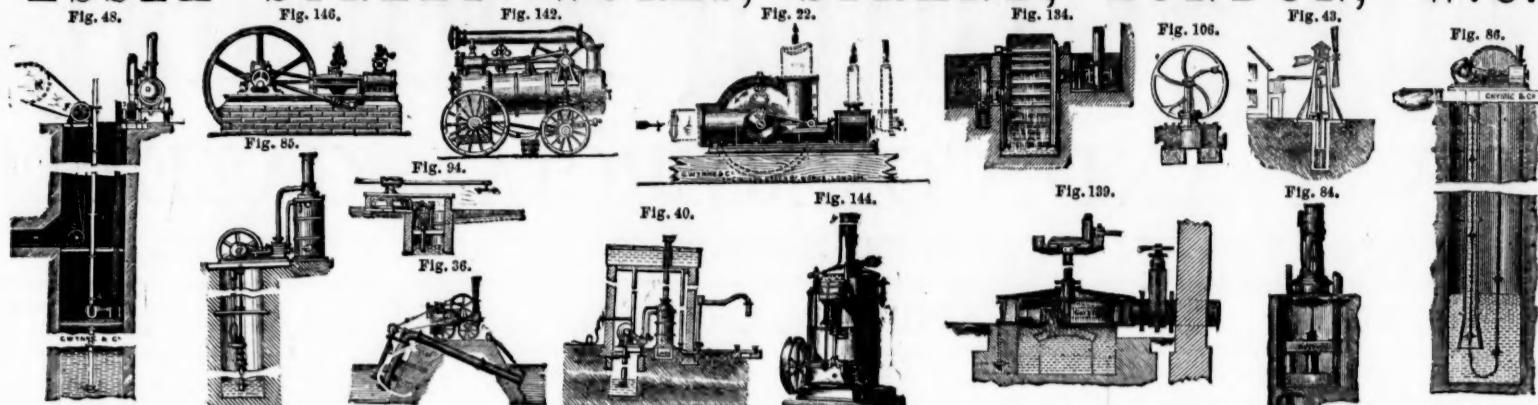


Fig. 144.—Vertical Engine, all sizes, from 2 to 20-horse power.  
 Fig. 146.—Horizontal Engine, from 4 to 100-horse power.  
 Fig. 142.—Portable Engine, from 2½ to 30-horse power.  
 Fig. 40.—Gwynne and Co.'s Combined Stationary Pumping Engine.  
 Fig. 139.—Turbine Water-wheel, from 1 to 300-horse power.

Fig. 22.—Combined Pumping Engine, all sizes, obtained Prize Medal, Paris Exhibition.  
 Fig. 85.—Deep Well Pumping Engine, all sizes.  
 Fig. 134.—Water-wheel Pumping Machinery.  
 Fig. 36.—Gwynne and Co.'s Patent Syphon Drainage Machinery.  
 Fig. 95.—Horse-power Pumping Machinery.

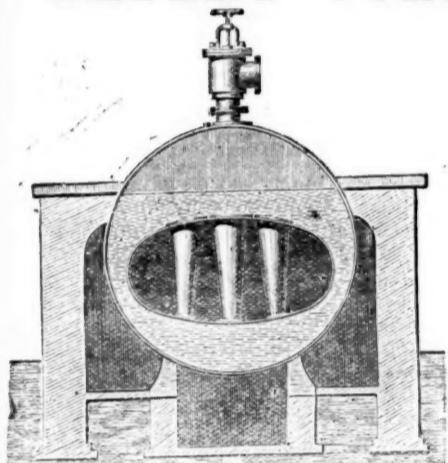
Fig. 86.—Chain Pump Pumping Engine.  
 Fig. 48.—Deep Mine Centrifugal Pumping Machinery.  
 Fig. 84.—Double-acting Vertical Pumping Engine.  
 Fig. 106.—Gwynne and Co.'s Improved Plunger Hand Pump.  
 Fig. 43.—Wind Power Pumping Machinery.

Steam Engines of all kinds and sizes, Hand and Steam Fire Engines, Water Wheels, Hydraulic Lifts, Cranes and Jacks, Steam and Water Valves, Hydraulic Presses, Sheep Washing Machinery, &c., &c.

List of Centrifugal Pumps, two stamps. Illustrated Catalogues of Pumping Machinery, six stamps. Large Illustrated Catalogue, with many Estimates, &c., twelve stamps. All post free, Gwynne and Co. have recently effected a considerable reduction in their prices, being determined to supply not only the best but the *cheapest* Pumping Machinery in the world.

**Gwynne and Co.,**  
 HYDRAULIC AND MECHANICAL ENGINEERS, ESSEX STREET WORKS, STRAND, LONDON, W.C.

**GALLOWAY'S**  
**PATENT CONICAL WATER TUBES FOR STEAM BOILERS.**



Section of the "Galloway" Boiler, showing arrangement of back flues, the furnaces being of the same construction as in the common two-flued boiler.

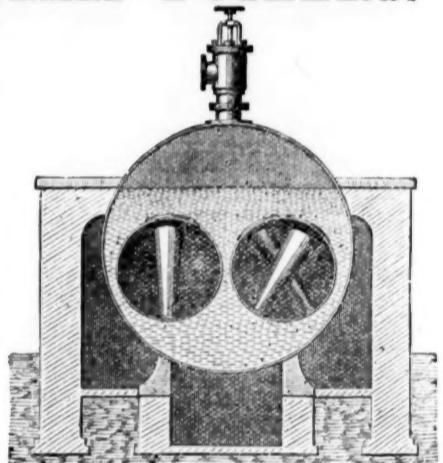
The above TUBES are made with such an amount of taper as will allow the bottom flange to pass through the hole in the upper side of the boiler flue, which renders their introduction into ordinary fluid boilers a simple operation, and with the following advantages:—  
 The POWER of the BOILER is CONSIDERABLY INCREASED, and the FLUES ARE MATERIALLY STRENGTHENED.  
 The CIRCULATION of the WATER is MUCH IMPROVED, and UNEQUAL EXPANSION with its attendant evils, PREVENTED.  
 LIABILITY TO PRIME IS LESSENED.

These Tubes have now been in use upwards of fourteen years, and above 50,000 are in work in various parts of the country with the best results.  
 They can be fixed by any boiler-maker, but can only be obtained from the Patentees.

**W. & J. GALLOWAY & SONS,**  
 ENGINEERS AND BOILER MAKERS  
 MANCHESTER,

Makers of Wrought-iron Parallel Tubes, 40s. p. cwt.

MANUFACTURERS OF THE WELL-KNOWN



Section of Cornish Boiler, showing application of the "Galloway" Tubes.

**"GALLOWAY BOILER,"**

AS PER SKETCH ANNEXED.

UPWARDS OF TWO THOUSAND OF WHICH ARE NOW AT WORK.

BOILERS OF ANY DIMENSIONS, UPON THIS OR ANY OTHER PLAN, CAN BE DELIVERED WITHIN A FEW DAYS FROM RECEIPT OF ORDER.

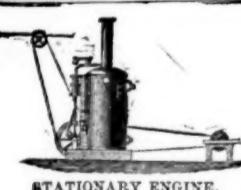
**STEAM ENGINES OF EVERY DESCRIPTION.**

General Millwrighting.—Hydraulic Machinery.—Polishing, Grinding, and other Machines for Plate Glass.

**LEAD ROLLING MILLS AND PIPE PRESSES. CAST AND WROUGHT-IRON GIRDER BRIDGES.**

HALEY AND OTHER LIFTING JACKS, BOILER RIVETS, &c.—SCREW BOLTS, STEEL PUNCHING BEARS.

Shearing and Punching Machines Bending Rolls, and every description of Boilermakers' Tools, &c., &c.

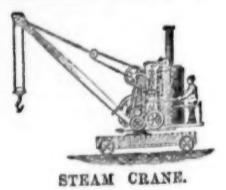


STATIONARY ENGINE.

**CHAPLIN'S PATENT STEAM ENGINES & BOILERS**

(PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862).

The ORIGINAL combined Vertical Engines and Boilers, introduced by Mr. CHAPLIN in 1855. Each class kept in Stock for sale or Hire.



**WIMSHURST & CO., ENGINEERS,**

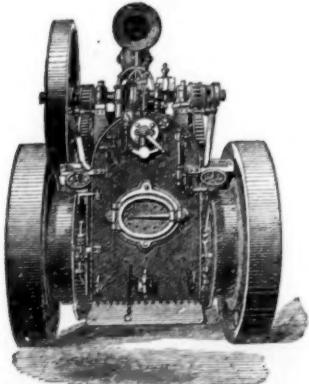
OFFICES: 117, CANNON STREET, E.C. WORKS: REGENT'S PLACE, COMMERCIAL ROAD EAST, LONDON, E.

**ROBEY AND COMPANY, LIMITED,**  
 ENGINEERS, LINCOLN.

PATENT PORTABLE

HAULING AND WINDING ENGINE,

WITH  
 PATENT DRUM WINDLASSES,  
 FOR MINING PURPOSES.



This Engine is specially commended to Mining Engineers and others, as by its adoption—

Haulage along inclined drifts is easily and cheaply effected.

The expense of sinking new shafts is greatly reduced, neither foundations nor engine-house being required.

It is available not only for winding, but for pumping, sawing, &c.—a great desideratum at a large colliery.

It can be very quickly removed (being self-propelling), and fixed in any desired position.

Prices and full particulars on application as above, and also references to the Engine in successful work near Derby, Carnarvon, Haverfordwest, Darlington, and other places.

PIT BAROMETERS—MINING INSTRUMENTS.

JOHN DAVIS,

MANUFACTURER OF MINING AND SURVEYING INSTRUMENTS,

DERBY.

MAKER (by appointment) of HEDLEY'S DIALS.

Price List on application.

STERNE'S PATENT PNEUMATIC SPRINGS FOR COAL CAGES.

Price £8 10s. per set of four.



By a special method of preparation, this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of

I. AND T. HEPBURN AND SONS,  
 TANNERS AND CURRIERS, LEATHER MILLBAND AND HOSE PIPE MANUFACTURERS,

LONG LANE, SOUTHWARK, LONDON.

Prize Medals, 1851, 1855, 1862, for  
 MILLBANDS, HOSE, AND LEATHER FOR MACHINERY PURPOSES,

## Original Correspondence.

## THE GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND, AND MR. TALBOT.

SIR.—The affairs of the Governor and Company of Copper Miners in England are just now attracting considerable attention, both on the part of the shareholders in that extensive concern, and of the general public. The operations of this company involve the welfare not only of a large proprietary, but also the interests of between 7000 and 8000 workpeople. From a paragraph which recently appeared in your paper, I am glad to see that the court of directors have at last resolved to take prompt and energetic steps for the better management of their property. It is not my object in this letter to refer to the general mismanagement, the supineness of the officials, and the other causes which have led to the present disastrous state of the company's affairs. There is, however, one point which has not been adverted to at any of the recent meetings, and which I think has a serious effect upon the prosperity of the Cwm Avon Works. It must be remembered that intimately associated with the tin, copper, chemical, and iron manufactures at Cwm Avon are the docks at the mouth of the little River Avon, bearing the title of Port Talbot. The shareholders in the one undertaking are, for the most part, the shareholders in the other, and their interests are almost identical. It would seem, then, that any scheme which would serve equally the works and the docks, and which would promote the advantage of both undertakings, ought to be hailed with delight, and supported enthusiastically by those interested in the company. Such a scheme has been more than once proposed, but it has invariably been thwarted by the will and caprice of one man, the scheme to which I allude is the continuation of the present line of rail running between Port Talbot and Cwm Avon, beyond the latter place to meet the South Wales Mineral Railway at the tunnel above Pontypridd. This railway would give easy and natural access to the practically unlimited and immensely valuable coal field at Glyncorrwg. The coal produced by the Glyncorrwg coal fields could be supplied to the Cwm Avon Works more cheaply than the coal obtained from any other source, and, moreover, any excess not required for that purpose could be shipped cheaply and conveniently on board the vessels bringing goods into Port Talbot Docks.

The proposed line of railway is short, the distance between the works and the Pontypridd tunnel being only about four miles, and running the entire distance along the margin of the river, so that it could be cheaply and expeditiously made. When the present South Wales Mineral Railway was formed it was proposed to bring it direct to Port Talbot. Practical men were convinced then, as they are now, that Port Talbot was the only natural outlet for the mineral wealth of the district. But, to the great loss of the proprietors, their original scheme was opposed, and to avoid expensive litigation, and a costly parliamentary struggle, the promoters, at an immense cost, carried their line through a tunnel at the base of the mountain into another valley, and thence brought it down to Briton Ferry. They have only regretted that step once, and that has been ever since. The existing line is difficult and inconvenient, and so satisfied are the shareholders of the soundness of their original views that I understand they would now willingly co-operate in extending the Glyncorrwg line along the river side to Port Talbot. The importance of this scheme has not been overlooked by the present manager of the Cwm Avon Works. With all his administrative faults, Mr. Struvé is not deficient in engineering ability, or practical common sense. He knows that the effect of a railway running close beside the Cwm Avon Works, having connection with a large coal field, could not fail to be a great advantage to that undertaking. Two years ago, at a general meeting of the company held in London, he called attention to the saving which might be effected by obtaining the coal required at the works from Glyncorrwg. He then pointed out in forcible terms that if the company lost only a penny a ton upon their coal purchases the aggregate loss would amount to 10,000 per annum. If true, as I am informed, that the coal used at the works is now costing the company from 1s. to 2s. per ton more than it could be procured for if this line were open, then the absence of the proposed line is a reproach, not so much to Mr. Struvé as to the directors who have failed to recognise its importance, or to overcome the opposition to its promotion. Mr. Vigners, the former successful proprietor of the Cwm Avon Works, was aware of the absolute importance of a free supply of coal, and when he disposed of the undertaking to the present owners he pointed out the necessity of opening up communication with the Glyncorrwg coal field.

Now why, Sir, it will be asked, is this line incomplete, and why are the Cwm Avon Works shut out from the absolute certainty of becoming a paying concern? As I said before, because of the caprice of one influential and self-willed man, and that man is the Lord-Lieutenant of the county, Mr. C. M. Talbot. What I am stating here is possibly unknown to the gentlemen in London who have the ostensible management of affairs at Cwm Avon, but it is familiar as "household words" to the inhabitants of the town, who for years and years have watched with sinking hearts the gradual decline of its prosperity, and the growth and progress of neighbouring towns not nearly so favourably circumstanced by nature. It will at once be asked what motive has Mr. Talbot in thus prejudicing a town and port in which he himself is personally interested, and in the neighbourhood of which he possesses large landed estates? His motives, I believe, are mixed. In the first place, he appears to have an objection to the extension and growth of a large population in immediate contiguity to his own mansion, which is situated not far from Port Talbot and the town of Cwm Avon. It is said of him that he has again and again declared that he "hates to see streets grow into villages, and villages into towns." At any rate those who are intimately conversant with the subject know that in the matter of granting building leases a policy of the most confirmed obstructiveness has always marked his dealings with the inhabitants of Cwm Avon and the neighbourhood. They recognise in him a land-owning "old man of the sea," who hangs round the neck of the town, strangling the very life of it. There is another reason why Mr. Talbot possibly objects to opening up a fresh coal field for the Cwm Avon Works. He himself possesses collieries, from which the present supply of coal to those works, in addition to what they raise from their own pits, is exclusively obtained. That he should object to any step which would interfere with this monopoly is natural, but that his opposition should have frustrated the efforts and blinded the judgment of men like the present Governor and Company of Copper Miners in England is more than I can account for.

If Mr. Talbot is ambitious of a monopoly, a gigantic monopoly, such as he seems bent on obtaining, let him buy up the Cwm Avon Works and the Port Talbot Docks at a fair and reasonable valuation. It is neither fair nor reasonable that he should possess the privilege of monopoly without the corresponding duties and responsibilities. As one interested in the prosperity of the district, and heartily sick of a political liberality which produces such illiberal social results as flow from Mr. Talbot's connection with this district, I venture, through your columns, to appeal to the Court of the Governor and Company of Copper Miners in England to look into this matter. Their own interests are more deeply involved in it than they imagine. The interests of a community of workpeople, numbering nearly 8000 souls, are imperilled. All that I ask is an enquiry into the matter—an enquiry by unbiased and competent persons—and I have no doubt that the result will be satisfactory to all concerned, bringing, as it will do, prosperity and stability to the company, security and profitable employment to the workpeople, and general progress and wealth to the whole district.—Cwm Avon.

## AN OLD INHABITANT.

## THE PARYS MOUNTAIN.

SIR.—Messrs. Taylor and Sons authorise you to state that there are several inaccuracies in the article published in the Journal of Aug. 13, but they do not, with one exception, point those inaccuracies out. I can only say, I was particularly careful to obtain the best information; to be, if possible, strictly and impartially correct; and to avoid noticing many circumstances which I thought might cause pain or annoyance.

In reference to the one inaccuracy they specially point out, I may remark that my information as to the value of the lode in the 65 was obtained on the spot from a practical agent, who had been underground, and I think it will not be very difficult to explain the discrepancy. My remark was—"A few months ago on the south branch lode a discovery was made, and the lode for 42 feet wide was worth 16 tons of copper ore per cubic fathom." The Messrs. Taylor, in reply, give extracts from reports, from which it is shown that in April "the lode had greatly improved, and would yield 3 tons per fathom."

Now, throughout the Parys Mines the ore makes in huge bellies. The lode from 1 to 2 ft. wide and poor may suddenly open out 30 to 40 ft. and rich. From these bellies large quantities of ore are obtained; then they narrow, and then open out again. And I need scarcely say that in one of these wide deposits of ore only about 3 or 4 feet of the lode would be driven upon and valued; the rest of the ore would be stoned away on tribute.

I may also add, without fear of contradiction, that for some months prior to July 1 Messrs. Taylor raised very large quantities of ore from the 65; one stope alone, I was told, had yielded 80 tons, and there was nothing in this inconsistent with the reported value of the parts driven upon during the months named.

The present manager who, as agent to the Marquis of Anglesey and Lady Dinorben constantly inspected the mine during Messrs. Taylor's management, writes me this morning, "I have seen many times in these mines a lode 42 ft. wide, worth 16 tons of ore in a fathom." And in reference to the present state of the 65, he says, "One pair of men broke last month (July) 19 tons of ore." Last week we also cut into a good lode of rich ore at the 90, which promises to open out well. I may add, in conclusion, from all I could gather on the spot, and from those who know, or had inspected, the mine, the general opinion seemed to be that the mines had before them a great future.

## THE WRITER OF THE ARTICLE.

## OLD TREBURGETT SILVER AND LEAD MINING COMPANY.

SIR.—I am happy to inform you that considerable progress is being made at the mine. We are fast getting into the old workings, and no doubt shall very shortly be making returns of silver ore. By a letter just received from Captain Hancock he will put the flat-rods to work on Saturday to pump out the Grinder shaft. John's shaft has been cleared right down 27 fms., and communication effected with the new engine-shaft into the old one, and pumps dropped down into it, so that we are now fast draining the mine, and shall soon have our third shaft cleared up. I have this week received a box of very good specimens of silver and lead ore from the mine, which have been obtained from some of the

lower levels, and shall have pleasure in showing them to anyone who takes an interest in the property. We are daily expecting to receive valuable information from the mine, as on Aug. 20 Capt. Hancock wrote to say he had the gossan part of the lode in the footwall of the shaft. J. H. TILLY, Sec. pro tem.

## THE COPPER TRADE, AND COPPER MINING.

SIR.—The price of copper still keeps declining month after month, and doubtless must and will do so as long as the market continues to be overstocked by such large importations from Chili and other countries. Supply and demand ever did, and ever will, regulate the market price of every article. Very deep and expensive mines, with low-produce ores, have no chance with mines yielding a high percentage of metal; and unless the royalty, or dues, are reduced to meet the competition of the age, mining for copper in Great Britain will in a few years be at an end, from the fact that very few new trials are now being undertaken. Formerly our ancestors kept driving adit, day, and other levels of discovery, ever the safest and the best pioneers of successful mining operations.

Should the proprietors of some of the most productive mines lessen their returns for a few months, they would get a much better price for their copper. It is evident that the supply of copper is too great for the demand at the present time, and very few mines as they get deeper will meet, or pay, the cost of working in any country, at present quotations. Mines abroad, we are told, with few exceptions, do not pay the cost of working charges, and as mines get deep the cost greatly increases, and as regards copper, the quality or percentage in the ore gets less, and not unfrequently ends with pyrites.

We are told that one extreme invariably produces another; but extremes are bad, and lead to ruin on the one hand, and over speculation on the other. Previous to the panic in 1866 the standard for copper in Cornwall was as high as 145*l.*, last week it was as low as 95*l.* This great depression must have the effect of stopping the majority of the deep mines in the world at a very distant period, unless the supply for a time is lessened. A. BENNETT.

[For remainder of Original Correspondence see this day's Supplement.]

## FOREIGN MINING AND METALLURGY.

The Belgian coal trade maintains much the same active appearance which it has presented for some time past. The orders received are still abundant, but their execution is much interrupted, so far as the Eastern of France Railway is concerned. When the war is terminated it seems clear that France will come to Belgium for a larger share than ever of its foreign coal supplies, as the Prussian mines at Sarrebruck are inundated, and it will take five months of hard work to bring them again into a workable state. Nothing further has transpired with reference to the negotiations which have been pending between the Belgian Government and Belgian mechanical and metallurgical firms with reference to contracts for locomotives and rails for the Belgian State Railways. It is much to be desired that a satisfactory arrangement may be arrived at on the subject, as the position of Belgian metallurgy is becoming one of difficulty. The Belgian Government has presented to the Chambers a Bill prohibiting the export until the end of the year of arms of every description, as well as engines and parts of engines intended for steam navigation. This is a step which must react very seriously upon the Liège gun trade; and it is suggested that it would be possible to attenuate the effects of the measure by prohibiting the exportation only to certain countries, instead of extending the prohibition to all indiscriminately. It is further urged that it is not necessary to name any precise period for the duration of even a partial prohibition of the exports in question.

During the year ending March 31, 1870, the Marcinelle and Couillet Company worked with energy the Marcinelle and Gouffre collieries; the extraction amounted to 5,016,051 hectolitres. The company's blast-furnaces produced during the year 64,475 tons of pig, and the rolling-mills 40,303 tons of iron of various descriptions. The minerals obtained from the workings of the company supplied the requirements of the furnaces to the extent of more than one-third. The construction workshops of the company made steam-engines, general machinery, and forgings to the aggregate weight of 4242 tons, and the aggregate value of 65,894*l.* The whole turn-over of the year was 480,083*l.*, and after sundry redemptions had been made the year's work was attended with a profit of 21,846*l.*

The Southern of France Railway Company has given out an order for 50 passenger carriages and 200 goods wagons, to be executed in the course of 1871. The last previous important order was for 200 coal wagons, as the opening of the Albi and Castres line directly united the Carmaux collieries to the network of the company. At the date of the last return this company owned 354 locomotives. It has nearly 1100 miles of line in operation, and its revenue is about 45,000*l.* per week.

At Marseilles, Toka Copper has brought of late 76*l.* per ton; Spanish, 70*l.*; refined Chilean and Peruvian, 76*l.*; rolled red copper in sheets, 78*l.*; round ditto, 82*l.* per ton. At Havre, Chilean in bars has made 66*l.*; refined ditto in ingots, 73*l.*; pure Peruvian minerals, 70*l.* per ton. For other descriptions quotations have been almost nominal. The transactions which have taken place at Cologne have been comparatively rare; prices have, however, been well maintained. At Berlin the stock of copper held on the outbreak of the European war was comparatively small, and the article has, consequently, become extremely scarce in the Prussian capital. On the other German markets the stock of copper has also become much reduced. The stock of Barca upon the Hamburg market has become extremely small; transactions have been limited, but prices have advanced. At Berlin, Barca tin has become scarce and dear. Lead has also been firm upon the German markets. There is not much change to report in zinc. The present price of the rolled zinc of the Vieille-Montagne Company is 26*l.* per cwt. on the Belgian markets; the price of rough zinc upon the same markets is 20*l.* per cwt.

In the present extraordinary circumstances in which France is placed—the north-eastern departments having been overrun by invading Prussians, and peaceful pursuits having been brought to a stand by the horrors of war—it seems useless to attempt, for the present, any detailed report of the French iron trade.

ROTARY MACHINE PUDDLER—NEW INVENTION.—The Cincinnati Railway Iron Works has now discarded the old style of hand puddling-furnaces, and adopted the revolving puddling-furnace machine, the invention of Samuel Danks, its superintendent. As this promises to revolutionise, by its economy, the work in the merchant and railway iron and steel mills in the country, a description of it will interest not only the manufacturer, but the general reader. In 1868 a small experimental furnace was built, which working satisfactorily for several months, two large and improved furnaces were built, and began work in April, 1869. These have worked steadily ever since, and in January the company ordered the construction of four additional and still further improved furnaces, and the total abolishing of the old hand puddling-furnaces. One of these improved furnaces is now at work, and the others will be in a few weeks, the old puddlers discharged, and the furnaces taken down to make room for the rotary machines. The last-named furnaces are of sufficient capacity to puddle a heat of 700 to 800 lbs., and make the heat into one ball. The two furnaces that began work in 1869 make two or three balls at one heat, and in nine consecutive weeks one produced 127 tons, and gained 10,347 lbs. of muck-bar over the charges of pig-metal; the average consumption of iron ore to the lining was 546 lbs. per ton of bar produced. All labour cost 9*l.* per ton, and the coal used 26.9-10 bushels per ton, which includes 54 lighting-ups, and puddling only slight shift. Recently the Roane Iron Company, of Tennessee, brought 10 tons of their furnace iron to test in these rotary puddlers. General Wilder, superintendent, and Mr. Brasier, the mill manager, attended the weighing, and watched the working of their pig-iron in them, giving it the closest scrutiny, for several days. The result showed a quality of muck-bar never before produced from their iron, and a gain in yield of good sound bar of 11*l* per cent. They have contracted with the Miami Machine Works for making 10 of the furnaces and engines complete. The Indianapolis Rolling-Mill Company are now having four built, and the New Albany Mill one.

For many years this improvement in puddling-furnaces has engaged the attention of Mr. Danks, the inventor, as it had before for years the attention of workmen and masters throughout the world. Success has now crowned his persevering efforts; and, with the Greek philosopher, he may well exclaim "Eureka." Among the advantages gained by the rotary machine puddler are, a superior quality of iron or muck-bar from a given quality of metal; a larger quantity than is possible in the hand furnace, averaging 10 per cent., and in some cases 15 to 20 per cent.; an increased quantity puddled of 50 to 80 per cent.; a saving in coal of 30 to 50 per cent.; of labour the same per cent., and a saving of repairs and materials; a saving in cost of construction when based on product of furnaces; an ability to work a quality of pig-iron, or old castings, difficult to puddle in the hand furnaces, and to produce puddled balls of any weight required. It can produce iron or steel at pleasure from puddled balls of

sufficient weight to make a solid head rail or a solid rail entire from a homogeneous bloom or ingot of iron or steel of better quality and cheaper than by any other known furnace. It produces finer grades of iron for hoops, hinges, sheet, or boiler iron, and for nail work it has no equal, as plates can be made so that the splitting of nails is impossible. Other advantages could be named. Like the sewing-machine, it will relieve labour of much drudgery, and promises to take first rank among the improvements of the age. Patents have been obtained in both this country and Europe, and we predict its general adoption.—Cincinnati Daily Gazette, July 23.

## Meetings of Mining Companies.

## THE VAN MINING COMPANY.

The annual general meeting of shareholders was held on the mine, on Aug. 19.—Mr. THOMAS CLEMENT MUNDEY in the chair.

Mr. W. J. LAVINGTON (the secretary) read the notice convening the meeting. The accounts for the six months ending June showed a profit of 11,591*l.* 9*s.* 2*d.* After the payment of the dividends, the balance carried forward amounted to 27,532*l.* 3*s.* 8*d.*

The report of the directors was read, as follows:—

The directors, in submitting their third half-yearly report and statement of accounts, have to congratulate the proprietors upon the great and rapid development of the underground works, by which the reserves of ore have been largely increased, and the property very materially enhanced in value. The cutting of the lode in the 45 shows clearly that its richness increases in depth, being twice as productive as the level above. The agent's report furnishes in detail the points of operation, which the directors regard as most satisfactory. A new shaft has been commenced, with the view of intersecting the lode at a depth of 140 fathoms; this will be urged on with all possible speed. The dressing-floors have been further extended, and more machinery and plant purchased, to meet the growing requirements of the mine. The drought this year has materially interfered with the works, but the large reservoir is now nearly finished, and next year the mine will have the benefit of an ample supply of water at all seasons. The directors have much pleasure in stating that a company has been formed to make and maintain a railway from the Van Mine to the Caersws Station, on the main line of the Cambrian Railway a distance of 6*l*. miles; it is in course of construction, and will be ready for work the latter part of the present year. This will be of great advantage, by affording a certain, cheap, and rapid means of conveying away the largely increasing produce of the mine. The sales of lead ores during the half-year amounted to 2925 tons, and 100 tons of blonde, realising together 27,052*l.* 10*s.*, showing an increase in the quantity of lead ore over the previous half-year of 370 tons. Yesterday 400 tons of lead ore, the produce of July, was sold, at an average of 14*l*. 3*s.* 1*l* per ton, realising 5662*l.* 10*s.* The directors, looking to the great magnitude and rapidly increasing reserves, deem it necessary to augment the capital of the company by the creation of 3000 shares of the same denomination, at a premium of 2*l*. 10*s.* per share. These shares were readily subscribed for by the members, in the proportion of one new for four original shares, and the first instalment was paid thereon last month. By this increase of capital ample means are afforded for the purchase of any further machinery and plant that may be found necessary, and a sufficient reserve for working capital, leaving the profits derived from the produce of the mine free for division amongst the proprietors. Mr. Page, one of your directors, retires in conformity with the Articles of Association, and, being eligible, offers himself for re-election. The directors record with much satisfaction their estimation of the admirable manner in which the works have been carried on by Capt. Williams.

The report of the manager was read, as follows:—

Aug. 18.—Edward's engine-shaft has been sunk 7*l* fms., and a cross-cut driven out north 20 fms., in which we have intersected the south part of the lode. Good spots of ore are met with at times, but nothing sufficient to value. On Monday last we tapped a very strong feed of water in the end, which is a very good indication. We have also started to drive eastward from the cross-cut by the side of the lode, to communicate with the 15 fm. level from Van, which we hope to do in about six months from this date. The 45 fathom winze has been sunk 10 ft. 6 in., and the cross-cut, measuring 13*l* fms., driven out to intersect the lode; the main leader of the lode is about 21 ft. wide. The total width of ore ground in this cross-cut is about 34 ft., which is worth about 60 tons of lead ore per fathom; we have not yet reached the footwall. The 39 fm. level, west of engine-shaft, has been extended 25 fathoms, and at a point 54 fathoms west of shaft a cross-cut has been driven north through the lode 29 feet, which for 2 fathoms wide is worth on an average 4*l* tons of lead ore per cubic fathom. The lode is now opened to full width for a length of 20 fms. west, and 24 fms. east of engine-shaft, and for the width carried (4 fms.) is worth 3*l* tons of lead ore per cubic fathom. A part of the lode, about 2 fms. wide, lying on the footwall, is not worked, but it will be worked on the same system as the stopes in the heading in the back of the 15, east of shaft. Two rises have been put up to the 15 fm. level, for ventilation, and passage of waste stuff from the 15 fm. level, west of engine-shaft, to the 14 fm. level, west of engine-shaft. The 14 fm. level, west of engine-shaft, has been extended 46 fms., by the side of the lode. We have not tried the lode since we passed the 94 fm. winze, where it was rich for lead. When we have effected a communication with the 120 fm. winze from deep adit we shall put a cross-cut north to prove the value of the lode. The total length of the level from the shaft to the present end is 122 fathoms. At a point 70 fathoms west of engine-shaft, in this level, we are opening upon the lode, which is worth on an average 4*l* tons of lead ore per cubic fathom. The stopes in the back of the 54 fm. level, west of engine-shaft, are worth from 2 to 4 tons, or an average of about 3 tons, of lead ore per cubic fathom. The stopes in the back of the level, 24 fms. east and west of the shaft, seven in number, will produce on an average 24 cwt. of lead ore per cubic fathom. The 15 fm. level, east of engine-shaft, measures 46*l* fms. At a point 44 fms. from the shaft, or 2 fms. back from the end, a cross-cut has been driven north 6 fms., to prove the lode, but found nothing of much value. We have driven a cross-cut south into the country rock at a point 6 fms. west of engine-shaft in the 15; from this cross-cut permanent levels have been driven 5 fms. west and 11 fms. east, for purposes before at

SLOUS had proved that riches are dirt, for in the bottom level, where there was a mint of wealth, there was also mud enough.

Mr. BATTERS proposed the re-election of Mr. Page, which was seconded by Mr. HUNT, and carried unanimously.

The meeting terminated with a vote of thanks to the Chairman.

#### PRINCE OF WALES MINING COMPANY.

A general meeting of shareholders was held at the offices, St. Michael's House, on Thursday.—Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. JEHU HITCHINS (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

A statement of accounts was submitted, which showed a balance in favour of the mine of 1190. 17s. 6d., exclusive of the last sale of ore, which will leave a small profit on the month's operations.

The report of the agents was read, as follows:—

**Aug. 23.**—Since the last general meeting Watson's shaft has been sunk to a depth of 2 fathoms below the 77 fathom level, trip-plat cut, penthouses, and bearers and cistern put in. The standing lift and sinking lift will be fixed and completed by Saturday next, when we hope to set to a full pare of men (nine) to sink and make good the shaft to a depth of 90 fms. from surface perpendicular. The 77 east has been driven 2 fms., 3 ft.; the lode is from 3 to 4 ft. wide, worth 10/- per fathom. Within 3 ft. of the present end we have communicated a rise with the mine from the 65, which has thoroughly ventilated the bottom levels, and opened up profitable ground for stopping. The 77 west has been driven 2 fms., west of the cross-course, lode 4 ft. wide, worth 8/- per fathom; the end at present is being driven by the side of the lode. The 77 cross-cut has been continued south 5 fms., 2 ft., and two small branches met with, which are about 4 fathoms apart; and being more the bearing of cross-courses than east and west lodes, we do not consider it to be the No. 1 south lode, and shall continue the cross-cut some 2 or 3 fms. further to prove it. The 65 west has been driven 2 fms., lode 2½ ft. wide, yielding a little saving work; in the present end the lode is not so large, and the work is suspended. The 65 east, on the No. 1 south lode, is driven 6 fms., lode varying from 1 to 1½ ft. wide, yielding occasional stones of tin and copper ore, but not enough to value. The 55 west has been driven 3 fms., 4 ft.; here the lode at present is small, being principally capel. The 55 west, on No. 2 north lode, has been driven 6 fms., lode from 3 to 4 ft. wide, composed of quartz, capel, peach, and munde, with occasional stones of copper ore intermixed, and letting out much water. We have two stops working in the back of the 65 east, worth on an average 10/- per fathom each. The stop in the back of the 55 east is worth 15/- per fathom. The stop in the back of the 45 west is worth 8/- per fathom. The tribute department is looking well, and the men are getting good wages. You will see by the above that but little has been done both east and west since the last meeting, which is in consequence of there not being sufficient air in the levels for more men to work. These points are now thoroughly ventilated, and we shall set on Saturday next to drive both east and west in the 77 by a full pare of men, where, from present appearances, we hope to open out a good run of profitable ground. We now beg to introduce to you the notice of the property of sampling two-monthly, which will be very beneficial for the future working of the mine, in curtailing the cost for stopping, timber, dressing cost, samplers' fees, and expenses. If these suggestions be carried out, the same quantity of copper ore could be raised for 10/- a month less.—J. GIFFORD, W. GIFFORD.

The CHAIRMAN said that it was satisfactory to find the report was decidedly better than for some months past. He might mention that the committee had not lost sight of the question of silver in the mine, and application had been made to the Duchy for permission to sink upon the lode, as by their lease they were not permitted to break the ground within five fathoms of the boundary. He added that offers had been made to take their munde veins, and pay the company so much in the pound for the silver contained in the mineral. He hoped that at the next meeting a more favourable balance-sheet would be presented, as during the last three months they had no returns from the bottom levels, but they were now coming into full play.

The report was received, and ordered to be entered on the minutes, and the accounts were passed and allowed.

The committee of management were re-elected.

A vote of thanks to the Chairman concluded the proceedings.

#### PERRAN WHEAL VIRGIN MINING COMPANY.

The first meeting of shareholders since the formation of the company was held at the account-house on the mine on Friday, Aug. 19, which was largely attended, and, amongst others, the following adventurers were present—Messrs. J. R. PAUL, Dr. Andrew, Tregoning (Miners' Bank), Bray, Mical, and Farley (Truro); Capt. Retallack (Chyane), West (St. Blazey), Tremayne (Falmouth); Kendall, John Thomas, G. S. Arnall, Michell, Jenkins, Faulls, Bone, Kendall, Jun. (Redruth), Jenkins, Blackney (Blackwater), T. Michell (St. Day), Burges (Perran Foundry Co.), J. G. Thomas (Harvey and Co., Hayle, Cambellack), Woolcock (Devon); Capt. Bennett and Borlase (Chiverton Moor); F. R. Wilson, secretary; Thos. Pryor, purser; G. E. Tremayne, manager; Charles Oates, agent, &c.

On the proposition of Mr. WEST, seconded by Mr. WILSON.

Mr. JOHN R. PAUL was voted to the chair.

The CHAIRMAN said he had no idea that he should be called upon to act as their chairman; but, as it appeared to be the unanimous feeling of the meeting, he would not hesitate to do so, and, without further remark, he would at once call on the secretary to read the notice convening the meeting. The report was read, as follows:—

**Aug. 25.**—Since the commencement of operations by the present company the principal underground work has been the extension of the 12 east about 18 fms. This has opened ore ground of the average value of 2 tons per fathom for the whole distance, and the lode in the present end will still turn out 2 tons of lead ore per fathom. About 4 fms. before this end a winze has been sunk 7 fathoms below the adit level, by the side of a lode, we believe, as good as that seven fathoms below the adit, and when these two points are communicated, in about six weeks' time, we shall then have a fine piece of ore ground properly ventilated and cut open for stopping away. The improvement in the lode in the 12 since the present company took possession of the mine has considerably increased the reserves of ore, which may now be taken at full 20,000/- worth. Four stops have been in work at the adit and 12 fm. levels, yielding about 15 cwt. of lead ore per fathom, but, owing to the very dry weather of the last four months, we have been unable to draw but little of this out of the mine, and we estimate the accumulation of ore now lying broken underground at 10 tons, which otherwise would have been dressed and sold. At surface ground has been excavated, and the pit built for a 50-ft. by 3½ ft. water-wheel. We completed the pit yesterday, but may say that a delay of full through weeks has occurred over this work for want of masons. We have two carpenters now busily engaged on the wooden erection of which, with the pulley-stands for new line of pumping-rope, we hope to have complete in five weeks, and put to work. This large wheel will effectually drain the mine, and set the present 40-ft. water-wheel free for continual drawing and crushing of ore-stuff. As soon as the new wheel is at work, and the water drained to the 24, the engine-shaft should at once be sunk in fast as possible for a 26, and still deeper levels; the 24 driven west of shaft, where the ground before the present end is all white to surface; the same level should also be pushed forward east into the good run of ore now seen and going down below the 12, at the eastern end of the mine. The adit level has not been driven by the present company for want of ventilation, although the end stands in a lode worth 1½ ton of lead ore per fathom. When the winze before alluded to has communicated with the 12 it will be driven immediately, and, with the 12 still laying open ground of the value of 2 tons per fathom, these two levels will greatly add to the present reserves of ore, as well as quickly place the mine in a position to give regular returns and good profits. The mine looks well, and has improved very materially since purchased by the present company.—J. PAUL.

The CHAIRMAN said that the present meeting was held in compliance with the provisions of the Companies Act, and, therefore, was purely formal in its character. The report, however, just read could not fail to be most satisfactory to the shareholders.

Mr. MURCHISON, in reply to a question, stated that the 100 tons of ore referred to in the report had been obtained from the four stops working in the adit and 12 fm. level, where the lode was valued at only 15 cwt. per fathom. So that none of that ore had been taken from those points where the lode was valued at 2 tons per ton.

Mr. EDWARD COOKE said he had been underground at Plynnimon, and the result of his visit was that he had increased his already large stake in the company. Although that was not the place to refer to the price of shares, he could not refrain from comparing Plynnimon and its reserves of ore, of the value of 20,000/-, and an unexpired capital of 70,000/-, with other mines, without reserves and without capital, which were selling in the market at high premiums. Shareholders in Plynnimon, however, might with perfect confidence depend upon the intrinsic merits of the mine, and disregard market value, although, no doubt, that would come when the public began to see the real tangible value of the property.

The CHAIRMAN mentioned that 48 tons of ore had been sold, and after deducting every expenditure, including the cost of the new water-wheel, the unexpended capital amounted to over 7000/-.

Mr. MONTPELIER (a director) said, in company with his colleagues, he had recently visited the mine, and was indeed much pleased.

A SHAREHOLDER had understood that no less an authority than the Chief Inspector of Crown Mines had expressed a highly favourable opinion of Plynnimon, and looked forward to it eventually proving second only to the deservedly celebrated Van.

Mr. MURCHISON, in reply to a question, stated that two months since the "reserves" were valued at 20,000/-, and the mine since then had considerably improved in value, to say nothing of its progressing improvement in prospects.

Mr. COOKE had no doubt that as soon as the investing public began to turn their attention to such matters Plynnimon would quickly occupy the position among investors that its merits most certainly warranted.

A vote of thanks to the Chairman concluded the proceedings.

#### MINING NOTABILIA.

[EXTRACTS FROM OUR MINING CORRESPONDENCE.]

**MINING IN FLINTSHIRE.**—A few days ago, when the inhabitants of Halkyn Mountain awoke up in the morning, they were delighted to hear that all the men working in the Rhosneigr Mine were hand and heart engaged in kindling fires, and making every preparation for the full starting of the three powerful engines in that mine. I am glad to say that within a few hours they had a splendid start, and have for eight days successively been pumping a complete river of water. According to the general rule of calculation, the three engines are pumping from the mine 3,257,280 gallons of water daily. I have been on the mine to-day, and am told the bottom level has appeared in sight, and by to-morrow they expect to go through that level dry. I heartily wish them every success; they have a real good mine, and no doubt will soon be selling large quantities of ore.

**WHEAL MARY LOUISA (formerly Trebell Consols).**—This mine is situated in the parish of Lanivet, and adjoins the Reperry Mine. It is held under grant from Lord Roberts and others, the greater part at 1-2dth, and the remainder at 1-2dth dues. Competent authorities pronounce its position to be one of the most desirable pieces of mining property in the district. There are several well-known lodes in the sett, and, from statistics obtained from the agent of the lord, it is ascertained that in considerate quantities has been returned by former grantees at a small outlay, and when the price of tin was very low. The profit in their workings was much reduced by the fact of the tin-stuff having to be conveyed a long distance to the stamps, and by a total absence of efficient machinery. The present company have purchased a steam-engine and 22 heads of stamps, which they calculate on being at work before the end of the year, and, from results already obtained, they are fully warranted in saying that returns of tin in remunerative quantities can then be made, with every prospect of rich deposits at a greater depth. It is calculated that not more than 5/- per 15-lb. share will be required. Among the shareholders are the Right Hon. Lord Roberts, Sir Frederick M. Williams, M.P., and other influential parties.

**NORTH TRESKERBY.**—When will the lords of mining properties look to their own proper interests—not to be done by throwing obstacles in the way of adventurers, but rather by ascertaining their views? This mine, which has for years paid a large yearly sum in dues to the mineral lords, asks for an adjustment to their sett, in the shape of a piece of unworked lode up ground, known as Scorrer Consols, belonging to the same owners. This, it would seem, does not appear likely to be granted, although Captain Richard Pryor has been most indefatigable on behalf of the adventurers to obtain it, and it may be mentioned already holds the grant from the Duchy for their share. What possible objections can the lords have? They know perfectly well that the ground asked for can be developed faster and better by the North Treskerby Company than by any one else. However, they will shortly have to work the property on their own account, or leave it alone, for the adventurers have now decided to have what they ought to possess or nothing. No wonder that capital should

be diverted from Cornwall, and its mines be stopped, when lords, lords' agents, and even purser of mines, combine to prevent any benefits ever going into the pockets of the struggling adventurers.

**TRIVARRACK.**—The works, which are carried on very energetically, progress rapidly, and with success. The engine-house is nearly completed, and will shortly be ready for the reception of the 36-in. engine, recently bought from the North Shepherds Company. The arrangements so far reflect great credit on all concerned, and there appears to be no doubt whatever that the adventurers will soon be rewarded for their outlay. The mine is splendidly situated, and all authorities who have seen it agree in thinking that it is one of the most promising concerns ever started.

**ROSE AND CHIVERTON.**—The shaft is now being sunk below the 20 fm. level with all dispatch. Should the anticipations of those most qualified to Judge be realised, there is a brilliant future before this mine, provided the works are energetically carried on, as at present.

#### MINING IN AUSTRALASIA—MONTHLY SUMMARY.

**MELBOURNE.**—In the Berlin district a lump of gold weighing 93 lbs. 5 ozs. has been found by a stockkeeper and his son-in-law; its length was 12 in., and circumference in the centre 15½ in. A 24-lb. nugget has also been found at the Argus Claim, in Sather's Gully. When retorted it returned 180 ozs. pure gold. Another nugget found three weeks ago in the Castlemaine district weighed 215 ozs. The departure of gold ships since last mail have been—May 22, Avoca, for Pointe de Galle, 101,290 ozs.; June 10, You Yangs, and Dandong, for Sydney, with 5252 ozs.; 15th, Great Britain for Liverpool, 29,309 ozs.; 17th, Lizzie, for Newcastle, 489 ozs. Total gold export from Jan. 3, 665,374 ozs., of which 100,934 ozs. transhipped from new Zealand. During corresponding period of 1869 the entire export was 694,106 ozs.; 69,229 ozs., from New Zealand.

Some very rich quartz reefs have been discovered at Diamond Creek, about two hours and a half journey from Melbourne. Large quantities of gold are being extracted, and much money is being made by some of the lucky adventurers.

**SYDNEY.**—The wet weather has seriously interfered with diamond mining at Madge. Operations are, however, becoming gradually of a more extended character. In a recent paper read before the Royal Society of New South Wales the Rev. W. B. Clarke, the eminent geologist, states that he believes the gems dug out are greatly inferior to those to be obtained when capital is properly applied. At Gulung reef a party yes erday turned up two nuggets, one 9 oz. the other 30 ozs. Tamborvor reports that 13 tons of quartz yields 1100 ozs. gold. A rich reef of lead and silver ore was found near Wallabah.—The New rush Gulung: The sinkings vary from 8 feet to 12 feet, with an average of 18 in. Wash dirt giving 14 dwt., to 24 dwt., of gold to the lode. Several nuggets from 4 ozs. to 8 ozs. found, and a good-sized diamond taken out of one cradle. A new quartz-crushing machine—spoken of as a great improvement—has been patented by the inventor, Dr. Bier.

**ADELAIDE.**—The month's mining news is not important, several excellent crushings of cement for gold have, however, taken place at Barossa. At the deep lead 10 tons crushed gave 4½ ozs. per ton, and hundreds of tons are ready to be operated on. The English, Scottish, and Australian Chartered Bank alone has purchased from this field 29,000/- worth of gold.

**NEW ZEALAND.**—The gold fields accounts are favourable. A rich copper lode has been discovered in the pioneer claim, Collingwood.

**RICH DISCOVERY AT THE BREMER MINE.**—While the cross-cut at the 103, west of Legg's engine-shaft, was in course of being driven to cut the main lode a valuable discovery of copper was made during this month. A lode which had been of little value in the upper levels was intersected, and yielded copper ore of rich quality in considerable quantity—grey, purple, and yellow-coated black of 30 to 50 per cent., which cannot fail to raise the average quality of the mine and to improve materially the position of the company. This lode appears to be from 3 to 10 feet wide, and has yielded about 8 tons in 7 ft. driving. One pare of men are driving south upon the course of the lode, while another are pushing on the cross-cut further west to intersect the main lode, which is expected to be 3 or 4 fathoms wide. In the 93 cross-cut, east of Legg's engine-shaft, Boundy's lode has been discovered and driven on several feet. It will yield about 2½ tons per fathom, but is very hard. The drive is being made alongside in hopes of meeting with easier ground, at the same time laying bare the lode for advantages springing hereafter. As the farmers have been busy seedling, the supply of wood has been short, and the Callington furnaces idle all the month, but several having come into earing, the furnaces will be at work again before very long. The quantity of ore raised and dressed during the month is about 150 tons. This is below the usual quantity, but as an alteration has been made in deepening, with a view to raise the percentage from 8 to 12, it is expected that the yield of fine copper will be about the same as usual. This alteration is expected to effect a considerable saving in firewood, besides causing the ore to be more easily converted in the furnace.—South Australian Register.

#### AUSTRALIAN MINES.

**YUDANAMUTANA (Copper).**—The superintendent states (Adelaide, June 29)—The only development that our limited means have enabled us to carry on during the past two years has been sinking and driving upon places where ore was showing. In pursuing this course we have expended a considerable sum in proving the mine, and in following up ore wherever it was to be found we have discovered the sphalerites at the 50. This we consider has amply repaid our outlay, and we look forward to good results from this part of the mine alone. I am confident of being able to pay a preferential dividend when the necessary works detailed in mine of March 2 are carried out, and have no doubt, but those of the officers of the mine who have the means will take up shares of the new issue; and I myself will gladly take a portion of the company's debt to me in preferential shares. The better position we shall be placed in by prosecuting the new works will result from the immense saving of labour in wheeling and handing, and the almost certain discoveries of new deposits. To these two sources alone, the former of which is certain, we look for profit in the future. The report of Capt. Terrell furnishes you with an account of the heavy rains in the north, in consequence of which we shall be able to get in any quantity of wood we require. I intend going to the mine, if possible, next Friday, there to remain, perhaps, two or three months, so as to insure the greatest amount of exertion possible on the part of our officers and men.—Railway North: You will see by the papers that Parliament met on May 27, that the Governor's speech mentioned the desirability of opening up the far north by a railway, and that the Government have pledged themselves to bringing in a Bill early next session to construct 200 miles from St. Augusta northwards. The Telegraph Extension Bill from the Darwin to St. Augusta has passed both Houses, and the line is commenced. Capt. Terrell reports, under date June 11.—Blinman Mine: A few days after I wrote my last report I was compelled to put out all the furnaces, on account of not having any wood; the roads were too boggy for any teams to travel. I, therefore, discharged all the underground men, excepting the party in No. 1 winze. The lode in this place is still looking very well, and all the other places are looking just the same. This week we have had a fine lot of wood brought in, which enabled us to put Nos. 2 and 5 furnaces at work, and I am pleased to say we tapped out a very good lot of regulus. The two furnaces will keep the roaster going, and, as we have been able to dress our ore to a higher percentage, no doubt we shall be able to turn out a fine lot of metal. The grass being several inches high we can turn out our horses. This will save horse feed, which has been a very heavy item in the cost for a long time past. Ore raised from June 1 to 11, 48 tons; smelted, 69 tons; on hand, 85 tons.

**PORT PHILLIP AND COLONIAL (Gold).**—Mr. Bland, Clunes, June 17: The quantity of quartz crushed during the four weeks ending May 25 was 37,900 tons; purity heated, 63 tons; total gold obtained, 931 ozs. 8 dwt., or an average per ton of 4 dwt., 20 grs. The receipts were 3494, 18s. 1d.; payments, 3275, 13s. 3d.; profit, 125, 18s. 1d., when deducted from the debit balance on joint working account—\$0409, 8s. 2d.—left a debit balance of 4910, 6s. 4d. The return for the three weeks ending June 15 was as follows:—Quartz crushed, 2639 tons; total gold obtained, 881 ozs. 4 dwt., or an estimated yield per ton of 4 dwt., 2 grs.

**WORTING.**—Thomas Prisk, June 18: Bremer Mine: We have not made the speed we thought to have made in driving the 103 cross-cut, owing to having met with a number of branches in driving; in fact, we have had them crossing the level for the last 4 fathoms, and all of them carrying ore of a very strange character. The lode is composed of rich grey, ruby, black, and yellow coated with black, white iron, peach, and quartz. Such a mixture I never saw before, at so low a level. This looks to me very strange, after having nothing but yellow ore throughout the mine from the 32 fm. level to the present depth. The greatest drawback is we cannot break it with speed, it being very hard in places around the soft leaders of ore, and at times large soft vugs of rich ore. Now, there are many opinions afloat about what this great change means; some say that it is the top of a large and rich deposit of ore leading to the main lode going south, others think it is the main lode making a change close up to the hard bar; my opinion is that it is the same branches that you will find an account of by looking over my reports, which we met with in driving the 63, 73, 83, and 95 cross-cuts, making towards the lode, and now in the 103 beginning to make ore. I would not like to say that in no part of the branches is the lode close to the hard bar, and that by driving north we should not get into the main lode, but I do not think it is. First, there is little or no water coming from the north, whilst there is a good stream coming out of the south, and because we have got into clean ground in the cross-cut, which has been dry for some time, and is now beginning to let down water, as it does generally about 1 or 2 fms. before we cut the lode. Be this as it may, it appears to me a very fine feature in the mine, and ought to start the sinking of Legg's engine-shaft at once, but this, I am sorry to say, we cannot do unless the company send out money to help us in these bad times, and I fully believe they will be paid for it in the end. The 22 end north is stopped for the present, being hard, and will not pay with the present price of copper; the lode in the present end will yield about 2 tons of ore to the fathom—the price for driving would be about

Lamb states:—"I have myself taken dirt from the four faces already opened, and washed from each bucket a sample of gold, acknowledged by experienced and disinterested men to be at least four-power paying quality." From the Duke of Cornwall Mine, Capt. Williams (June 18) reports—"Daukes' engine-shaft has been sunk 15 ft. 8 in. during the past month. The men when not sinking the shaft have been engaged in driving the eastern cross-cut to the 200 feet level. My last report stated that quartz had been struck in the bottom of the cross-cut; the vein proves a much larger one than any cut since we passed Captain's lode. I am inclined to believe we are approaching more stone, as water is increasing. I have nothing further to report."

ENGLISH AND AUSTRALIAN (Copper).—The directors have advices from Port Adelaide to June 20:—There were four furnaces and one refinery at work at Port Adelaide. The new wharf at Port Adelaide was expected to be completed in about a month from date of advice. The Government steam dredge and spoon barges were actively at work dredging opposite the wharf. The manager had returned to Adelaide, having left the new works at Newcastle in a forward state. The 111 tons copper, advised by last mail as ready for shipment, had been shipped, and a further quantity of 200 tons was in course of shipment.

## FOREIGN MINES.

DON PEDRO.—The directors have received the following telegram from Lisbon:—"Weighed to July 30, 4529 ots.; estimate for July, 6529 ots."

ECLIPSE (Gold).—Capt. Barratt, California, July 23: Since I last reported progress we have laid the track, and the miners are now engaged clearing the mine and making preparations for sinking the main shaft below the 100 feet level. A party is also engaged opening the 160 feet north end, lode 2 ft. wide. The lode in the shaft is also 2 ft. wide; this shaft is sunk adjoining the cross-course, consequently the lode is a little disordered in it, but about 6 feet north of the shaft the lode is 6 feet wide of good milling quartz, which will give from \$30 to \$40 the ton for a distance or length of several fathoms. In the bottom of this level a winze is sunk 29 feet below the bottom of the shaft; the lode in it (the deepest point in the mine) is from 6 to 7 feet wide, of excellent milling ore. This winze we shall not have anything to do with for the present, as I intend to sink the main shaft to the 250 feet level, then we shall drive and open up a considerable amount of ore. There is a great quantity of reserves at present in hand. I find there is a considerable quantity of valuable reserves standing very near the surface that can be taken away at very little expense; the quartz or ore is of good quality, showing free gold throughout. We have considerable reserves on hand, and when we get our mill (stamps) in operation, the Eclipse will show itself a first-class gold mine. We have yet a little preliminary work to put the mine in good working order—fix them on the main shaft and put a double track in it, fix the lowering machine on the incline, &c., which will all be done within two months; after that, the operations of the mine, extraction of the ore, &c., will be carried on without let or hindrance. I will as early as possible forward you a plan and section of the Eclipse Mine. I am glad to hear the stamps and machinery are on the road to California. When they arrive they shall be fixed and put in operation as quickly as possible. The boiler and fittings are by this time on the road from San Francisco to this place, I have sent for more miners, who I hope will be dispatched as quickly as possible, as they are required. We are doing all possible to expedite the work, and when the mill or stamps are erected and in operation the returns will be such as to dispose of all doubts in reference to the profitable working of the Eclipse Mine.

ANGLO-ARGENTINE.—Captain J. Vivian reports for June that, at South Mine, Captain, the engine-shaft is sunk from surface 30 fms. 3 ft.; the ground in the bottom of the shaft is clay-stone, of a silty lustre. The cross-cut driving east of the engine-shaft, in the 20, is now 9 fathoms; no change in the ground since my last report. Main Lode: The adit level is driven north of the cross-cut 5 fathoms, at which point we have met with some old workings; the lode was undoubtedly very rich, as it is worked very bare. In the adit level, driving south of the cross-cut, we have had a splendid lode nearly all the month, but the end is not looking quite so well. Manager: In driving the cross-cut east in the base of the hill we have intersected the main lode, and cut into it about 6 feet; at this point it is not rich, it being mixed with limestone. I think we shall have an improvement here shortly; to the north of the cross-cut we have met with some old workings. North Mine, Colonel: The shaftmen are making good progress in cutting out the 20, and the same will be finished next month, if all goes well.

BATTLE MOUNTAIN.—Wm. Nancarrow, Nevada, Aug. 3: Virgin Lode: The lode in the 73 feet level, north of the winze, is 4 feet wide, and much improved since last week; it is a splendid lode of copper, looking better than ever it has at this level—it is driven 25 ft. north of the winze, and looks fair to continue. The stopes in the back also look much better than it did last week. The lode in driving south of the shaft is from 3½ to 4 feet wide, but up to the present time is of no value; there is only a little stain of copper, no substance. We have holed Pickett's shaft, and have now splendid air in this part of the mine.—Lake Superior: In driving north at the bottom of the shaft the lode is large, and contains a little ore, but does not improve as I expected, and as we get further into the hill the ground appears to get much harder. In the south level, I told you in my last, we had begun to stop the back home against the slide; this lode has very much improved since my last, it is 6 feet wide, a really good one for the kind of ore, but not so rich as the Virgin. Mr. Bond will be able to show you some stone from this ledge. But in this mine (L. S.) we have little or no air to work—the men cannot do one day's work in four, in fact; we cannot keep the candle burning at all. The weather has been very hot—extremely so, and the air being so very light, owing to the great elevation, that scarcely any air plays down at all. This place where we have been stoping is only in some 30 to 35 ft. from the shaft, had it been in 90 or 100 ft. from the shaft I would go down in the little fall, and sink another shaft for air, but if we sink on our present stopes we shall have to go right into the middle of our tramway-road, besides it would take us two months to get it down, and by that time I hope the heat will be moderate. As we have a good deal of assessments to work up, I have decided to put two men on the assessments, and another two to assist in drawing up the ore, &c., at Virgin shaft, for I think that we can make for the Lake Superior at the Virgin. Nothing new in the shaft on the Holloway's lode, and nothing done on the Troy. We have not sent down much ore since last week, only about 200 sacks, which will make our stock at the railway station about \$90. The reason we have not sent more is that the wagons broke down. We have close upon 300 houses on the mine at present, and I think, especially as far as the Virgin is concerned, we have never been in such a good position for taking out ore before. I wish you could manage to put up the price of copper, as it is a pity to sell the ore we are now breaking at the present low price.

EXCHEQUER (Bullions).—Capt. Chalmers, Aug. 1: The north drift is now in 51 ft., and has revealed some good second-class ore; I propose carrying this drift still further before stopping out the ore we have passed. The winze is down 69 ft., and has passed through some first-class ore, but scarcely any of it was taken out, the pitch of the ledge having become so flat, or there being a bulge to the east, that, continuing our proper angle in sinking, we have got almost under the ledge, and into the bed-rock. In a week or so I shall be back in the ledge casing again. We have been grading foundation for the house, and are now grading for the carpenter's shop and first-class ore-house under that building, pending the completion of my arrangements for ventilation. A road has been made from the mine to the wood ranch, a ventilating-furnace has been erected, and the pipes are on the ground to connect with the air-shaft, in which I shall be again at work so soon as the outside work, just referred to, is finished.

UNITED MEXICAN.—Guanaxuato, July 19: In our mines I am unable to report any new discovery, though on the whole we are doing better than at the commencement of the year.—Mine of Jesus Maria y Jose: The work in this mine has been continued much as usual on the reserves. The discovery in El Socorro shows no improvement.—Mine of Remedios: The workings are much in *status quo*. The front going off northwards towards La Trinidad continues poor. Upwards, in San Crescencio, the lode gets narrow, though it is in good ore. Some accounts show a profit of \$4100, of which \$2392 appertains to the company.—No. 1 Concern: Adit of San Cayetano: Notwithstanding the great heat and want of ventilation in the adit, the work advanced during the month of June 10 fms. We are driving on decomposed vein, intermixed with mountain rock.—Mine of Buenaventura: In this mine the water from the surface has been very troublesome in the shaft, and has interrupted work for several days. We have consequently advanced but little. In the front going towards the adit—viz., 5 metres.—Mine of San Antonio de la Ovejera: The rock in the cross-cut in this mine is extremely hard, and from appearances I should be led to suppose that we are not very distant from the upper wall of the lode, but as we are getting on very slowly we may be some time before we reach it. The cross-cut on the 1st July was 32 metres long.

LINARES.—Aug. 17: West of Engine-shaft: The lode in the 85, west of Warne's engine-shaft, is disarranged and poor. The ground in the 75, west of Crosby's, is hard, and the lode unproductive. The 65, west of San Francisco shaft, yields 1½ ton of ore per fathom; this level is opening up good tribute ground. The 65, east of San Francisco shaft, is worth ¾ ton per fathom. The lode in the 55, west of this shaft, is small and poor. No improvement has taken place in the 55 east. The 45, east of San Francisco, produces 1 ton of ore per fathom; the lode is composed chiefly of quartz and lead ore. In the 31 fm. level, east of the above shaft, the lode has been very small and unproductive for some time. The driving is now suspended. The 25 east is also unproductive.—Shafts and Winzes: The ground at Crosby's shaft, below the 75, is getting hard for sinking. No. 173 winze, below the 55, yields 2 tons of ore per fathom; this is going down in a productive lode.—Los Quinientos Mine: The lode in the 55, east of Taylor's engine-shaft, is large, yielding occasionally stones of lead ore. The 55 west is without change since last report. The 45, west of Taylor's, yields 1½ ton per fathom; this is opening good tribute ground. In the 45, east of Taylor's, the lode is large, yielding ½ ton of ore per fathom, and the ground easy for driving. The lode in the 32, east of Addis's shaft, is very regular and well defined, producing 1½ ton per fathom. The 32, east and west of Henry's shaft, is still in old works; there have evidently been large quantities of lead taken away from here. No improvement has taken place in the 32, west of San Carlos shaft. In the 32, east of San Carlos shaft, the ground is hard, and the lode small and poor. We have cut the lode in the 45 cross-cut, south of San Carlos; the lode is composed of quartz and lead ore, yielding of the latter ½ ton per fathom. There has been no change in the 32, south of Cox's shaft, since last report.—Shafts and Winzes: The lode at Addis's shaft, sinking below the 32, is quite poor at present. Cox's shaft is being sunk below the 32 as far as possible.

ALAMILLOS.—Aug. 17: The 5th level, east of San Rafael shaft, yields 1 ton of ore per fathom; the lode is more open, and the ground a little better for driving. The 5th level, west of this shaft, produces ¾ ton per fathom; the lode is very compact, and spotted with lead throughout. The 4th level, west of San Martin shaft, is worth ¾ ton per fathom; the lode fluctuates a great deal, and the ground is hard for driving. The 4th level, east of La Magdalena shaft, is valueless. The 5th level, east of La Magdalena shaft, yields ¾ ton of ore per fathom; this is communicated to San Enrique shaft; lode large, and spotted with lead. The lode in the 6th level, east of Taylor's shaft, has fallen off in value in the last few days. The 6th level, west of Taylor's engine-shaft, is worth 1 ton per fathom; the lode is large and strong, and looks well. The lode in the 5th level, west of San Adriano shaft, is very regular, but unproductive. The driving of the 4th level, west of San Yago shaft, will be resumed shortly, a shorter cross-cut being required south to hole to the shaft. The 2d level, west of Cox's shaft, is worth 1 ton per fathom; the lode, which is irregular, yields some fine stones of ore. The 2d level, east of San Victor shaft, yields ½ ton per fathom; the lode and ground continue unchanged. In the 2d level, west of San Victor, the ground is hard, and the lode unproductive. No change

has taken place in the 3d level, east of San Victor. The 3d level, east of cross-cut, yields occasionally stones of ore. The lode in the 3d level, west of cross-cut, is in a very unsettled state at present. The 2d level, west of San Carlos shaft, produces some good stones of ore, but not enough to value. The 2d level, east of Addis's shaft, produces ½ ton per fathom; the lode continues unchanged, letting out water freely. The 2d level, west of Addis's, produces ½ ton per fathom: the lode is getting larger, and carrying more granite, which is likely to split it. In the 3d level, west of Crosby's cross-cut, the lode yields a little lead, but not enough to value; the ground has slightly improved. The footness of the air compels us to suspend both the 2d level east and the same level west of Swafford's shaft for the present.—Shafts and Winzes: No change has taken place in Taylor's engine-shaft, sinking below the 6th level; the shaft is still off the lode. The sinking of La Magdalena shaft below the 5th level has been resumed; we hope soon to get down to the depth of a 6th level. The lode in Henry's shaft, sinking below the 2d level, is small and poor. No. 90's winze, below the 5th level, yields ½ ton of ore per fathom; the lode is very open,

lode. In Burgos' winze, sinking below the 70, good stones of lead ore occasionally found.—Los Salidos Mine: The lode in the 110, west of Morris's engine-shaft, still continues small and valueless. The 100, west of Buenos Amigos shaft, produces ¾ ton of ore per fathom; the lode is not quite so good as it was, but the ground is somewhat easier for driving. The 90, west of Buenos Amigos shaft, is worth 1½ ton per fathom. There is no change to notice in this end since last report. The 75, west of San Carlos shaft, produces 1 ton of ore per fathom. We have put a new party of men in this end, and hope to get on more rapidly with driving; the lode looks better. In the 110, east of Morris's engine-shaft, the lode is very small and poor. The 100, east of Cox's, yields ¾ ton per fathom; there is a good lode in the upper part of the end, but downwards it is not so good. The 90, east of San Pablos shaft, continues to open out well; it is now worth 3 tons per fathom. The 25 east and the 25 west of Paignton's engine-shaft each yields ½ ton of ore per fathom; there is not much change to notice in these ends, the lode in each being regular, compact, and solid.—Shafts and Winzes: Buenos Amigos shaft, sinking below the 100, yields ¾ ton of ore per fathom; the lode is still small, and the men are getting on fairly with sinking. We hope to communicate Nitro's winze with the 90 this month. Topo's winze is worth 3 tons per fathom; this is holed to the 100. Castelar's winze, below the 65, yields 2 tons of ore per fathom; the lode is compact and solid, and the men are getting on well with sinking. The stopes throughout the mine are looking much as usual. The machinery is in good working order, and all surface operations are being carried on with the usual regularity. We estimate the raisings for August at 350 tons.

HOLLOWAY'S PILLS AND OINTMENT—SUMMER AILMENTS.—Viscitudes of temperature, extreme heat, and indulgence in fruit, are now producing diarrhoea, dysentery, and cholera. In the early stages of these diseases the public possess in Holloway's remedies a grand specific, which can be applied internally and externally, with the certainty of checking the intestinal irritation. None but the imprudent and reckless will disregard the admonitory symptoms of these often fatal diseases. In the hot weather their course is soon run, and unless adequate means be adopted, death is the fearful penalty of neglect. To children and young people these medicines are a boon indeed, for they arrest disease without inflicting injury to the most feeble constitution. They purify the blood and give the delicate better health.

## EVERY INVESTOR AND CAPITALIST SHOULD APPLY FOR A PROSPECTUS OF

The Geifron Mining Company, Limited,  
THE VAN DISTRICT,  
LLANIDLOES, MONTGOMERYSHIRE.

Established for working the well-known Geifron Mine, on the Van lode, which has hitherto made such large returns, and is recognised as the great lode of the district. This property is held at a royalty of 1-16th of the produce. Incorporated under the Companies Acts 1862 and 1867, which limit the liability of the shareholder to the amount of his or her shares.

## NOMINAL CAPITAL, £32,000, IN 6400 SHARES OF £5 EACH.

Deposit, 10s. per share on application, and £1 on allotment, and the balance, if required, at intervals of three months, not exceeding 5s. per share, of which due notice shall be given.

## DIRECTORS.

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(With power to add to their number).

BANKERS—THE ALLIANCE BANK, LOTHBURY, E.C.

SECRETARY—HENRY YEATES, Esq.

OFFICES, —85, GRACECHURCH STREET, E.C.

This company is formed for the purpose of purchasing and working the celebrated Geifron Mine, well known and recognised as the most legitimate mineral ground in the Van district. In addition to the Van lode, they have the Geifron lode traversing the sett and forming a junction. In consequence of the war, lead has gone up in value £2 per ton, in great demand at this advance, and is less liable to fluctuations in price than any other metal. It is a well-known fact that the paying lead mines in Wales average nine or ten to one as against those of Devonshire and Cornwall. The advantages of working mines in this district are very considerable, as the mountains containing lead have the levels, in most instances, high and dry, and are, therefore, worked at little cost, whereas in Cornwall the ponderous and extravagant machinery tires out two-thirds of the adventurers before they get to the mineral.

This mine has been working for a considerable time, the proprietors having cleared up the levels and timbered the ground, in order that it may be fairly inspected, and laid before the public as a *bona fide* investment.

During the former working of this property it was stated there were sales of from 50 to 60 tons of ore per month, realising over £18 per ton. From £10,000 to £12,000 has already been advantageously expended on the mine, and there is ample water-power from the Severn for pumping and all other purposes. The facilities for transporting the ore are very great, the mine being about four miles distant from Llanidloes Railway Station; in the previous working they had to transport the ore to Aberystwyth, a distance of fully 35 miles, at a cost of £2 per ton. The lodes, as proved at all the points of operations, are prolific and metal-bearing. The strongest opinions from undenied authorities point to the Geifron as the great mine of the district, especially as the junction of lodes takes place there, and it is at such a point that a practical miner looks for the great deposit of ore.

The mineralogical stratification and geological position of this mine are every thing that could be desired; and it is the current opinion of practical men and geologists, thoroughly acquainted with the district, that this property, being worked by a spirited company, cannot fail to give considerable profits, equal to, if not in excess of, the Van Mine.

An advantageous agreement has been entered into with the vendors for the purchase of this valuable property, dated 23d June, 1870, and is made between Wm. Cremer, Chas. Rule, Bridges, Carmichael Hooke, George Everard Hooke, and John Pennington Endean of the one part, and Mr. James Collins, the Secretary on behalf of this company, of the other part; the particulars of which may be seen at the office of the company. So confident are the vendors of the value of the mine that they have agreed to accept shares for their entire interest, which is a feature in the undertaking that no mine in the Principality, started as a public company, has hitherto laid before the public.

The directors believing in the principle of limited liability, have adopted it, feeling assured that this course will be appreciated by the shareholders, and they feel confident that they are inviting investors to subscribe to a *bona fide* property.

Shareholders desirous of paying up the whole £5 at once will be at liberty to do so, and receive 5 per cent. discount in respect of such fully paid-up shares, which shares can, under no possible circumstance, be subject to any future call.

Share warrants to bearer will be issued under the provisions of the Companies Act, 1867, which pass from hand to hand like a Bank note, and by which all trouble and expense of making and registering transfers will be avoided.

The following extracts of reports from eminent geologists and practical mine agents of the highest standing in England, well known in mining circles, will explain fully the present position and future prospects of this undertaking.

Prospectuses, plans, &c., may be had on application to Mr. YEATES, at the offices of the company, 85, Gracechurch-street, London, E.C.

## EXTRACTS FROM REPORTS UPON THE GEIFRON MINE.

I have made a thorough examination of this remarkable mine, and had not known the apathy and supineness of the Welsh miners should have been surprised to see so little attention devoted to the proper methods for the development of such splendid lodes. The principal lode is, I believe, the great Van lode; it is on the exact strike of the celebrated vein, and presents appearances which fully warrant the idea; the sett is in close proximity, and also has the advantage of being surrounded by mines, including Pen-y-Clin, Aberdaunant, and other partially proved and favourite properties. The lode is of unusually large size, is well defined, and proved to be rich for copper in the backs and upper levels, with lead and blende ore coming in as the depth increases, a fact in perfect consonance with the circumstances of many of the richest lead mines that have been worked in the clay-formation, as at the Laxey Mine, in the Isle of Man, and those in the East Wheal Rose district, in Cornwall, where lead ore is invariably found beneath such upper deposits. A considerable amount of ore may be procured in your stopes and in prosecuting your levels into the hill, when you will have extensive backs, and doubtless you will soon have parcels of lead and copper ore for the market, irrespective of discoveries to be made in depth. There are several parallel and counter lodes that run through the entire sett, and in the western part of the mine form junctions with the main lode; such circumstances can hardly be over estimated. The strata are clay-slate and carbonaceous, traversed by silvan and sparry cross-courses, and highly mineralised with iron pyrites, oxides of iron, carbonates of lime, and the lodes are rich in gossan—in fact contain all the elements to constitute a great and lasting mine. The ground in the neighbourhood of the principal lode appears to be saturated with mineral in solution, the walls of the vein being covered with oxides and carbonates to a very unusual degree, and present a beautiful green appearance. The floor or sole of the old level has yielded a quantity of carbonate of copper, which has been saved, and is now at the mouth of one of the adits, where also are some piles of good copper ore for dressing. I should advise this strongly impregnated solution be saved for the purpose of precipitation, as at Parys Mountain, Alderley Edge, &c., as I am persuaded it will pay well to do so. The copper ore is of the rich yellow and peacock character, together with black oxide. I have heard it stated that when the mine was last wrought, by the imperfect modes alluded to, as much as 30 to 50 tons of copper per month was sold at £20 to £25 per ton. After examining the backs and produce of the Geifron Mine I can easily believe it, and that by present scientific appliances that amount may be indefinitely increased. All you have to do to make large profits is to sink your mine as they have done at the Van, and extend your levels. The lodes are such as to warrant the most sanguine hopes of a great success, if appearances, analogy, and a good locality be deemed preliminaries worthy of consideration. I may briefly sum up my report by saying you have them all in the Geifron, and that they may be cheaply and easily developed and taken advantage of—in fact, the undertaking can hardly be deemed a speculation, as it is really an investment.

GEORGE HENWOOD, Mining Engineer.

I have known the above mine and the large tract of ground included in the company's grant for more than 20 years, and am well acquainted with the underground workings and the circumstances under which the works became abandoned some few years ago, and these were wholly exceptional, having no reference whatever to the merits of the adventure, but arising solely from the sudden

death of the largest shareholder, and the circumstances that sprang therefrom. At this time the returns of copper were considerable, and ranged for a long period at from 20 to 30 and up to 5



at 31. 10s. per fathom, worth 6s. per fathom. Our pay and setting passed off very satisfactorily.

NORTH POOL.—Aug. 25: In the 24 east two stopes in the back will produce 2 tons of copper ore per fathom, accompanied with good tinstuff. No other change to report. We are erecting a new whim upon Ballarat shaft. We have 11 tons of good copper ore ready at surface, and about 4 tons underground broken, which we cannot draw up until the whim is complete. The 40 tons of tinstuff has been offered for sale.

NORTH ROSEKAR.—R. Goldsworthy, R. Angove, Aug. 25: We have taken down the lode in Doctor's shaft, which we found about 5 ft. wide, producing occasionally fine stones of copper ore. The men are now put to drive the 250 east; as soon as we have driven about 12 or 14 ft. we shall case and divide the shaft from the 240 down, and commence driving west also. The lode in Bryant's shaft still maintains its former size and value—3*1/4* per fathom for the length of the winze. The lode in the 240, west of Doctor's shaft, is 4 ft. wide, worth 10s. per fathom. In the 230, west of Doctor's shaft, the lode is full 5 ft. wide, producing tinstuff of low quality. The winze sinking in the bottom of this level is still poor. There is no change to notice in the 140 fm. level, cross-cut south from wheel Section. All our tin stopes throughout the mine continue much the same as when last reported. We sold on Friday last 37 tons of arsenic, for 133*1/4* s.

OKEL TOR.—W. B. Collom, Aug. 25: The stopes in the back of the 50, on the north lode, will yield 3 tons of ore to the fathom. In the 65 east, on the north lode, the large mundic lode has spalled out, and another splice is making at present, 1 ft. wide, of ore and mundic. The stopes in back of the 65, on the north lode, will yield 6 tons of ore and mundic to the fathom. In the 80 east, on the north lode, the driving is on the north part of the lode, which is being carried for 5 ft. in width. Various assays for tin have been made from this lode, one of which has made a produce of 5 quarters of tin to the ton of lode-stuff; another three-quarters of tin to the ton; and from the lode on the south side of the level it produced one quarter of tin to the ton. In the 80 east, on south lode, the lode is yielding 1 ton of good quality ore to the fathom. There are seven tribute pitches working for copper ore, which are yielding fair quantities of ore.

OLD GUNNISLAKE.—F. Phillips, Aug. 24: New Shaft: The branch I spoke of last week is not so large as then; it seems to be very changeable, and is now about 6 in. wide; the other parts of the lode is standing for the time. Cross-cut: I think we are nearing the lode, but have not cut it yet; about 4 ft. have been driven.

PEDN-AN-DRE UNITED.—W. Tregay, J. Thomas, Aug. 20: Pump Shaft: Pump progress has been made in sinking below the 140 during the week. In the 140 end west the lode is worth 14*1/2* per fathom. The stopes in back of this level yields 10 cwt., of black tin per cubic fathom; lode 12 ft. wide. In the 120 end east the lode is worth 6*1/2* per fathom. In the 120 west, on north lode, the lode is large, strong, and promising, yielding good stones of tin, and letting out much water. We are still driving from the 47, to meet the top of the rise in the 100 east; ground rather stiff.—Cobbler's Shaft: In the 120 west the lode produces a little tin, and lets out much water, promising improvement.—North Shaft: In the 90 east the lode is worth 6*1/2* per fathom. In the 90 west the lode is worth 2*1/2*, per fathom; 80 east, 6*1/2*; 80 west, 8*1/2*; 70 west, 12*1/2*; 60 east, 6*1/2*; 60 west, 12*1/2*; 50 east, 12*1/2*; 55 west, 20*1/2*; 47 east, 15*1/2* per fathom. In the cross-cut north of the 47 west end we are still intersecting branches producing stones of tin.—Car-doz's: The lode in bottom of this shaft is worth 15*1/2* per fathom. The pitches throughout the mine are producing their usual quantities of tin, and are looking well for continuance. We sold this day at Baison 18 tons 6 cwt., 1 qr. 23 lbs. of black tin, for 132*1/2*. 3s. 4d. No other change to report.

PENHALLS.—S. Bennetts, W. Higgins, Aug. 25: The lode has not yet been cut in the 80 north, we think this will occupy a month. The stopes in back of the 70 is without alteration, being worth 12*1/2* per fathom, and the winze below the 60 west is worth from 5*1/2* to 9*1/2* per fathom. The stopes in back of the 50, on the north lode, is now in contact with the south part of the down-right, and not so productive as it has been. The 50 east is hard and sparry, and the water is issuing freely from it. At Sarah's the 17 west is worth 9*1/2* per fathom. The driving of the 50, west of Glynn, is resumed. The rise above the 10 fm. level, at the flat-rod shaft, is worth 2*1/2* per fathom.

PENHALLE WHEAL VOR.—W. H. Martin, Aug. 25: The sinking of the engine-shaft below the 130 is now resumed on the course of the south lode, which is of great advantage to us, both in time and expense; we shall push on this point with all dispatch, so as to meet with the junction, where there cannot be any doubt as to the results. The 130 north cross-cut is extended 3 fms. 4*1/2* fm. 6*1/2* in. The ground is without change. I strongly urge the desirability of pushing on this cross-cut to intersect and open up on the course of the lode, and I fully believe by so doing we shall make good discoveries of tin. We are getting on as fast as possible in putting in the whim-engine. Our 60-in. engine and pitwork are in good working order.

PERKINS BEACH (Shropshire).—(Telegraph). E. Davies, Aug. 26: Walker's vein greatly improves as depth is attained; rocks of solid ore now being got. Have to be broken before they can be raised, as some exceed  $\frac{1}{4}$  ton. We shall sample 20 tons shortly.

PRINCESS OF WALES.—Thomas Foote, G. Rickard, Aug. 24: We have nearly completed the cutting of the trip-plat at the 50. There is no change to report in the cross-cut driving north at the 50. The lode in the end driving east at this level is composed of peach, spar and mundic, and in places producing stones of ore.

QUEEN.—Wm. Knott, Aug. 23: The ground in the cross-cut south at the 20, below adit, continues favourable for driving, and of very congenial character for mineral. In the 30 fm. level, east and west of Cook's shaft, no lode has been taken down the past three days, but when last taken down was much of the same size and character as last reported—worth 6*1/2* and 12*1/2* per fathom.—Silver Department: Pauli's winze is being sunk below the 15, and is now 2 fms. 8*1/2* ft. below that level. The lode in this winze continues to present very promising appearances, and is yielding some good saving work, and from which we have broken since my last five bags of silver ore of moderate quality.—Bennetts' Western Shaft: This shaft is now 8 fms. below the adit, or 10 fm. level. I expected at or about this point we should have discovered the junction of the north lode and south branch, and it would have been reached if the underlie of the south branch had continued as seen in the adit above. The branch of silver in the eastern end of this shaft continues good, and we have broken from it during the past week six bags of silver ore of good quality. I have written Messrs. Sims, Willyams, Nevill, and Co., this day respecting the shipment of the two parcels of silver purchased last week by them; and we are preparing two fresh parcels for sampling. The masons are making good progress in the building of the engine-house, &c.

REDMOOR.—F. Bennetts, Aug. 25: The lode in the 20, west of the lead lode, is worth 3*1/2* per fathom. The lode in the end, west of the winze, below the adit, is worth 9*1/2* per fathom. The lode in the adit west is worth 6*1/2* per fathom. The lode in the winze sinking below the adit, west of No. 1 winze, is worth 10*1/2* per fathom. The lode in the stopes west of the rise, in the back of the adit, is worth 7*1/2* per fathom. We have had no increase of water for dressing as yet.

REPERY.—Thomas Parkyn, Aug. 25: The engineers are making rapid progress in fixing the engine, and all other work is being pushed on with all dispatch. The engine-shaft is now down 5 fms. below the 15, and I have eight men employed in sinking the shaft, working six-hours core night and day. We have had some rich leaders of tin falling into the north lode, and I am of opinion that we shall have rich work for tin at the 25 than we had at the 15, as several droppers of tin have fallen into the north lode. I think we are getting near the south lode, as we have more water coming from the south end of the shaft. There are two or three other lodes we shall cross-cut when we get down to the 25, which will be in five weeks' time; we are sinking 6 ft. a-week.

RHYDATALOG (Silver-Lead).—Special Report: Like many other properties dependent upon water-power, this mine has during the past few months suffered from the drought. The underground operations have for a time been limited, but considerable progress has been made at surface, the erection of the large pumping-wheel has been completed, the pumps dropped into the shaft, and all other works necessary for draining the mine to the lowest depth have been carried out. The smithy, carpenter's shop, store-house, and office are in course of erection, and will be finished in a few days. The small wheel is erected, and the drawing-machine will shortly be on the mine, when the whole of the works will be carried on by water-power. The 17 has to be driven into the mountain about 30 fathoms further than the present end to reach the junction of two lodes, both of which have proved productive at and near to the surface; at the point of intersection the depth from surface is about 30 fathoms, but in driving the level further into the mountain it will leave backs of at least 80 fathoms, the advantages of which can scarcely be estimated, as four lodes of considerable width and known productiveness traverse the sett, and pass into the mountain in a westerly direction, one of which—the Llanfair lode—being the richest silver-lead lode in the district, producing nearly 90 cwt. of silver to the ton of ore. The lodes in this company's property are of considerable width, and highly productive of silver-lead; they pass through the entire length from east to west, forming junctions with each other within its limits. The machinery is worked by a brook, which passes through the centre of a sett, and by a river, which forms the boundary on the south-east side, and is of sufficient power to develop the lode to a very great depth. The discovery of this valuable mine was made about 80 years since, but owing to the then existing difficulties in carriage of materials to and from the mine the workings were abandoned. The railway now is within 10 miles, and roads have been made, so that transit is no longer a difficulty to be contended with. The only mines in the neighbourhood that have been worked have been so to great advantage, and the owners have received large profits from them; the stratification and lodes of which are identical with this property, and exhibit all those appearances which indicate the produce of mineral in quantity and richness.

ROARING WATER.—H. Thomas, Aug. 23: We have not done much here in this mine during the past week, in consequence of want of water to work the wheel. I cannot report much progress for the last week, but I can assure you there is a good lode at the 45, west of Gillman's shaft.

ROCHE CONSOLS.—T. Parry, Aug. 25: In sinking a new shaft north of the lodes we have been working on we have made a splendid discovery in coming on a new lode, which is rich for tin. The new lode is 4 ft. wide, and the men are sending up large rocks containing rich work for tin. This is a most important discovery, and will greatly enhance the value of the mine. With this new lode, and the other three lodes already laid open, you have immense quantities of rich tinstuff available for the stamps, and you have a valuable mine here. I am pleased to inform you that tin is raised 2*1/2* per ton, and another rise of 3*1/2* more is expected to-morrow, which will make present price for best tin 8*1/2* per ton—a good price this.

ROSEWALL HILL AND RANSOM UNITED.—J. Daniel, S. Uren, Aug. 24: The lode in the 110, driving east of Ransom shaft, is 18 in. wide, worth 5*1/2* per fathom. The lode in the 100, driving east on the north part, is 9 in. wide, say, saving work. The lode in the stope in bottom of the 90 is 2 ft. wide, worth 3*1/2* per fathom. The lode in the 80, driving east, is 6 in. wide, unproductive. The lode in the winze sinking below the 60 is 1 ft. wide, worth 10*1/2* per fm. The lode in the 50, driving east, is at present small. The lode in the 30, driving east, is 9 in. wide, worth 6*1/2* per fathom. The lode in the 20, driving east, is 9 in. wide, worth 6*1/2* per fathom. No change in either of the cross cuts driving north in the 100 and 90 fm. levels.—Eastern Carbons: The lode in the Carbona stopping in back of the 100 is 4 ft. wide, worth 15*1/2* per fathom. There is no further change to report.

ROTHBURY.—J. Mayne, Aug. 25: In Greene's engine-shaft the men are progressing satisfactorily, clearing it and securing it on the course of the lode. In Sir Frederick's shaft the lode is much the same—thinly throughout, but a considerable increase of water. In Freeman's shaft, sinking below the 17 fathom, the lode is worth 10*1/2* per fathom. In the 17 fm. level east, the lode in the 60 fm. level east is rather improved, now worth 18*1/2* per fathom, and looking promising for a still further improvement. The lode in the stopes in the back of this level is worth—No. 1, 20*1/2* per fathom; No. 2, 30*1/2* per fathom; and the stopes in the bottom of this level, west of shaft, is worth 15*1/2* per fathom. No improvement has yet taken place in the 60 fm. level, west of Maria engine-shaft. The lode in the 50 fm. level, east of Willeford's shaft, is worth 15*1/2* per fathom. No important change has yet taken place in the lode in the bottom of the shaft.

WEST ROSEDOWN.—J. Truscott, Aug. 23: I beg to hand you statement of the 90 to drive west on Rosedown's lode, 2 fms. stent, by four men, at 7*1/2* per fathom, measured 2 fms. 6 in.; the lode is about 1*1/2* ft. wide, composed chiefly of quartz, intermixed with mundic and spouts of copper ore. The 90 to drive west on Rosedown lode, 2 fms. stent, by four men, at 10*1/2* per fathom, measured 1*1/2* ft. wide, producing a little saving work for copper. The 85 to drive the cross-cut north, 3 fms. stent, by six men, at 10*1/2* per fathom, measured 2 fms. 6 in. The 75 to drive the cross-cut north, 2 fms. stent, by six men, at 11*1/2* per fathom, measured 2 fms. 1*1/2* in. To drive the cross-cut south, 2 fms. stent, by six men, at 15*1/2* per fathom, measured 1*1/2* fm. 4*1/2* in.; there is now a little water issuing from this end, which indicates one nearing a branch or lode.

WEST TANKERVILLE.—A. Waters, Aug. 25: Wood Vein: We have dropped 8*1/2* in. driving-lift, 21 fms. below the adit, and shall have everything in readiness to start the engine to pump out of the old mine on this day week. The said

before we shall commence driving east and west, when we hope to be able to report the opening out of a lode equal to that of the levels above. In the 71, west of King's shaft, we continue driving in the granite by the side of the lode. The winze sinking under the last-named level is worth about 30*1/2* per fathom. The 71, east and west of the cross-cut, on the south part of the lode, is worth about 15*1/2* per fathom. The 61 fathom level, west of King's shaft, is worth about 15*1/2* per fathom. The winze sinking under the level is worth about 15*1/2* per fm. The 61 east, on the north branch, is worth about 25*1/2* per fathom. The winze sinking under the 51, east of Vivian's shaft, is worth about 10*1/2* per fathom. The 51, west of King's shaft, on No. 1 branch, is worth about 15*1/2* per fathom. The rise above the 51, east of King's shaft, on No. 1 north branch, is worth about 10*1/2* per fathom. The stopes continue as good as they have ever been.

SOUTH CONDURROW.—J. Vivian and Son, H. Abraham, Aug. 25: West Bassett Lode: In the 93 fm. level, west of King's shaft, the lode is about 2 feet wide, and easy for driving in. In the 51 fm. level, east of Tye shaft, the lode is 1*1/2* ft. wide, of a favourable character, easy for driving through, and producing a little tin. In the deep adit level, east of Fraser's shaft, there is a lode 1*1/2* ft. wide, having a very favourable appearance, easy for driving through, and composed of tinstuff of moderate quality, making it worth about 6*1/2* per fathom.—Tin Lode: In the 82 fm. level, cross-cut south, west of King's shaft, there is no alteration since last week's report. In the 71 fm. level, west of King's shaft, we are still driving in the granite by the side of the lode. The winze sinking below the 51, east of Vivian's shaft, is worth about 10*1/2* per fathom. The 71 fm. level, west of King's shaft, on No. 1 branch, is worth about 15*1/2* per fathom. The rise above the 51, east of King's shaft, on No. 1 north branch, is worth about 10*1/2* per fathom. The stopes continue as good as they have ever been.

SOUTH DARREN.—J. and W. H. Boundy, Aug. 23: The different bargains throughout the mine continue without any change to notice since the last report. We are pushing on with the dressing as fast as we possibly can. A full report shall be sent you next week.

SOUTH MERLLYN.—Aug. 25: I have no alteration to report since last week.

SOUTH MINE continues to look well, and producing the same quantity of lead ore previously reported.

SOUTH VAN.—James Richards, Aug. 25: We should have been in readiness to resume the sinking of the shaft ere this if the work from the foundry had been completed. However, this obstacle will be obviated in a day or two, when no time shall be lost in order to get to the bottom of the shaft.

SOUTH WARD.—T. Foote, Aug. 24: Our progress in sinking Thomas's engine-shaft was first-rate during the past week. We have passed through a floor about 12 in. thick, composed of quartz, lime, and mundic, heavily charged with the latter. We have also a splendid wall going down perpendicular the western hill of the shaft, quite a specimen to look at, being nearly covered with mundic, and lets out much water, promising improvement.—North Shaft: In the 90 east the lode is worth 6*1/2* per fathom. In the 90 west the lode is worth 2*1/2*, per fathom; 80 east, 6*1/2*; 80 west, 8*1/2*; 70 west, 12*1/2*; 60 east, 6*1/2*; 60 west, 12*1/2*; 50 east, 12*1/2*; 55 west, 20*1/2*; 47 east, 15*1/2* per fathom. In the cross-cut north of the 47 west end we are still intersecting branches producing stones of tin.—Car-doz's: The lode in bottom of this shaft is worth 15*1/2* per fathom. The pitches throughout the mine are producing their usual quantities of lead ore.

TAMAR VALLEY.—J. Goldsworthy, Aug. 35: In the 31, driving south of the western engine-shaft, the lode is 2 feet wide, composed of horn, fluor, mundic, and prian, and produces occasional stones of rich silver-lead ore. The driving will be suspended for the present, to admit of a rise being put up in the back, were we anticipate on opening up good ore ground, and procure good ventilation. In the 27, driving south of western engine-shaft, the lode is showing favourable indications of an improvement. The tribute pitches throughout the mine are producing their average quantities of lead ore.

TANKERVILLE.—Arthur Waters, Aug. 25: There is no change in the prospects of the mine since my last report. Watson's shaft is down 5 fms. 2 ft. below the 92, and is yielding its usual quantities of lead ore. The stopes through the 92 the mine never looked better than to-day. The new engine-shaft, from surface to all dispatch, so as to meet with the junction, where there cannot be any doubt as to the results. The 130 north cross-cut is extended 3 fms. 4*1/2* fm. 6*1/2* in. The driving is good, and lets out much water, promising improvement.

TERRAS.—J. Edwards, Aug. 25: The ground in the deep level is still favourable for driving. All departments of the works are working and progressing favourably; we are gradually laying the floors and increasing the machinery for the dressing department, which is much required for the stamps now at work. That we have a vast extent and quantity of productive tinstuff, and which can be delivered into the stamps, to great advantage, is being daily made positive and certain; and I only require ample stamping machinery, dressing floors, and appliances to enable me to make very large monthly returns of tin, though not surpassing in quantity any other in the county.

THREWETHA.—T. Foote, Aug. 23: We have sampled this day a parcel of ore, computed at 35 tons. Tenders to be sent at your office on or before the 29th inst.

VAN CONSOLS.—T. Corfield, Aug. 25: In the 80 fm. level end, going east towards the barytes, we have occasional stones of lead, but the composition of the lode is much the same as it has been for some time. We have had some rain, and are now able to draw stuff from the western shaft. At Little's shaft sinking in going on very well; we can go down at the rate of 5 or 6 ft. per week. It is Gundry's shaft I hope to have the water out by to-morrow morning; we shall then be able to resume operations at this point.

VIRTUOUS LADY.—H. Horwill, Aug. 24: We have let down the water from the 24 this morning, and shall now be enabled to examine the lodes, and ascertain at what depth they will be intersected in the shaft, the sinking of which will be immediately resumed. There is no change to notice in the character of the ground in the cross-cut south, either for progress or mineral. The lode in Metherill's level and stope, west of Screen shaft, has much improved since last report, producing rocks of ore; in fact, it has never been so productive since we commenced it as it is at present, and looks as if it would turn out a large quantity of mineral. In the south adit level east the lode continues large, producing gossan, prian, and stones of black ore, everything about it indicative of a deposit of copper ore. Dressing operations pushing on as fast as possible.—The Lode: In the open cutting the lode continues large, composed of capel and the work for the stamps. The engine-shaft is in order to receive the pitwork, the wheel-pit is excavated, and stone sufficient for building on the spot. The water-course is completed, and the lobby to the wheel-pit will be finished this week.

WEST BASSET.—G. Lightly, Aug. 24: We have no change of importance to report this week. We sample to day 240 tons of copper ore.

WEST CARADON.—W. Johns, N. Richards: Marlin's Shaft: Clymo's lode, in this shaft, is about 1 ft. wide, and spotted with ore. The 55, west



land Creek and Pacific Mines have been delayed on account of the stoppage of the North German Lloyd steamers. Taquaril shares remain firm, at former prices. The following are the closing quotations:—Ashton, 5½ to 5½; Tan-yr-Alt, 2½ to 3½; Tankerville, 15½ to 15½, ex div.; Van Consols, 2½ to 2½; Devon Great Consols, 80 to 90; East Caradon, 4 to 4½; East Lovell, 32½ to 33; Great Laxey, 18½ to 18½; Great Wheal Vor, 7½ to 7½; Marke Valley, 7 to 7½; Tin-croft, 35 to 37; Van, 60 to 65; West Chiverton, 55 to 56; Almada, 1½ to 1½; Anglo-Argentine, 2 to 2½; Cape Copper, 8½ to 9½ prem.; General Brazilian, 4½ to par; Chontales, 2 to 2½; Don Pedro, 1½ to 2 prem.; Frontino and Bolivia, 2 to 2½; Pacific, 2½ to 3; Sweetland Creek, 3½ to 3½; St. John del Rey, 20 to 22; United Mexican, 2 to 3; Eberhardt and Aurora, 13 to 13½.

IRISH MINE SHARE MARKET.—Although Thursday's reduction of the Bank of England rate of discount to 4 per cent. was telegraphed to us sufficiently early to influence the Bank of Ireland to reduce theirs to 4½, yet there is, at the moment of writing to you, not much impression felt on the prices of stocks and shares, which, with the exception of gas and railway securities, have been mostly neglected these last few days. Mining shares, also, were without animation, Wicklow Copper (27.10s. paid) being dull at 87.10s. to 87.15s. Mining Company of Ireland shares (7.10s. paid) cannot command offers above 8s., though 87.5s. is the price asked. Connoree shares are livelier than any others, and have been dealt in at 3s. 6d., but 3s. 9d. being now the sellers' price. The shares of the General Mining Company for Ireland range from 10s. buyers' offer to 20s., demanded by holders. Cape Copper shares are only nominally quoted at 167.5s.

TIN TRADE.—The Standards of Tin Ore were advanced on Monday, and are now:—Common, 116s.; superior common, 117s.; fine, 118s.; superior fine, 119s.

At Wheal Owles meeting, on Aug. 19, the accounts for the quarter ending June showed a profit of 1030L 12s. 5d. A dividend of 1000L (12s. 10s. per share) was declared, and 2025L carried forward. Work performed during the quarter: 151 fms. 4 ft. 11 in. driven in levels, and 61 fms. 3 ft. 7 in. sunk in shafts and whines; 49 pairs stowing for tin on tutwork, and 14 pitches working on tribute. It is stated the mine continues to look well.

At Wheal Kitty (St. Agnes) quarterly meeting, held on the mine (Mr. A. Huntington, jun., in the chair), the accounts showed a profit on the three months' working of 1542L 32s. 7d. An extra month's merchants' bills was charged up, and a dividend of 1503L 7s. (7s. per share) was declared. The balance in favour of the mine was 2193L 10s. 4d. The agents' report will be found in another column; it states the mine continues to look well.

At Blue Hills Mine quarterly meeting, on Wednesday (Mr. Wm. Godstall in the chair), the accounts showed a loss of 284L on the three months' working. A call of 2s. per share was made. The agent's report was considered satisfactory.

At West Prince of Wales Mine meeting, on Thursday (Mr. S. W. Dauks in the chair), the accounts for three months ending June showed a cash balance of 155L 19s. 3d., and liabilities in excess, including July cost, 177L 9s. 1d. A call of 6d. per share was made.

At Nanglais Mine meeting (Mr. B. Matthews in the chair) the accounts for the three months ending June showed a debit balance of 1494L 18s. 8d. A call of 7s. 9d. per share was made. Capt. James Rowe and James Rowe, jun., reported upon the various points of operation, and made certain recommendations for future working. Capt. Rowe was authorised to purchase a 12 or 16 head stamp-axe, and also suitable calciners, and to erect the same forthwith; also to purchase a suitable secondhand stamping-engine.

At East Chiverton Mine meeting (Mr. T. Woodward in the chair) the accounts for the four months ending June showed a credit balance of 21L 11s. 5d. A call of 2s. 6d. per share was made. Captain Gros and Southey reported favourably upon the various points of operation. Every economy is being used consistent with a fair trial of the sett. The engine is in capital order, and working well.

At North Lovell Tin Mine meeting (Mr. T. Woodward in the chair) the accounts for the four months ending June showed a credit balance of 177L 1s. 5d. Capt. James Rowe reported that their prospects, upon the whole, were very cheering. The engine is working well, and having about 10 tons of coal a month. The lode sinking through in the shaft will stop at a profit.

At Ballewidden Mine meeting, held at the offices of Messrs. Davy, the accounts for the four months ending June showed a credit balance of 21L 11s. 5d. A call of 2s. 6d. per share was made, and the secretary's salary was increased by 1s. 6d. per month. Capt. Rowe was authorised to purchase a 12 or 16 head stamp-axe, and also suitable calciners, and to erect the same forthwith; also to purchase a suitable secondhand stamping-engine.

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## NOTICES TO CORRESPONDENTS.

\* \* \* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be sent on receipt: it then forms an accumulating useful work of reference.

**RAILWAYS AND ISLAND WATER TRANSIT.**—Observing the announcement of the opening of a line of water communication between Liverpool and Staffordshire by the Weaver Carrying Company, I should be glad of a reply to one or two enquiries concerning it. Firstly, what is the relative cost per ton per mile by the railway and water respectively; also for the entire distance (say) from Birmingham to the ship's side at Liverpool or in the Mersey? Secondly, what is the difference in the time occupied between railway and canal? It certainly seems to me that water carriage would be far preferable where, as in this case, the goods for shipment can be carried direct to the ship's side. Perhaps some of your correspondents can inform me upon these points, and also how many tons, upon an average, a single horse can pull on a canal? Of course I mean boat and load combined.—J. R. C.

**STEAM TRACTION ON CANALS.**—Some years since Mr. Andrew Smith, I believe, proposed the substitution of steam-power for horse-traction on canals, but I do not recollect whether his invention was for putting the engine in the boat or for running it on the tow-path, though I think it was the former. Both would, no doubt, succeed, yet I cannot find that either has been tried. Perhaps some correspondent of the *Mining Journal* can inform me where I can see either principle in operation, and also what has been the result?—H. J. C.

**SAFETY-LAMPS.**—“K. K.” (Dadley).—The extinguishing of a lamp by the fall of an extinguisher, actuated by a spring brought into operation by the release of a catch upon an attempt being made to unscrew the lamp-top is not new. It was invented and patented about fifteen years since by Mr. Symons, and the patent has lapsed, yet the invention has been several times re-patented. We can tell why self-extinguishing lamps have not been introduced, unless it is that practical men prefer to place reliance upon men rather than on mechanism. We have never yet seen lamps called self-extinguishing that could not be opened without putting the light out, except Warling's and one or two others, which after a little use could not be opened at all without breaking the lamp. We are not sure, but believe that the lamps in general use in Belgium are not self-extinguishing.

**MINERAL OIL.**—Can any of your correspondents inform me the quantity of sulphuric acid used in the manufacture of mineral oil—theirs, the number of pounds of sulphuric acid used in the treatment of each 100 gallons of oil in its preparation for the market? What strength acid is commonly used, and what is the state of the acid after the oil has been treated? Is the acid capable of being used over again, or does one quantity of oil spoil it?—STUDENT.

**SCALE FOR ADVERTISEMENTS.**—To avoid the necessity of frequent application we may state our charge for general advertisements £1— for six lines and under, £1.50 per line afterwards. £1. Average, twelve words per line.

**SHARE DEALING.**—We never interfere in the sale or purchase of shares; neither do we recommend any particular mine for investment or speculation, or broker through whom business should be transacted. The addresses of most of the latter appear in our advertising columns.

## THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, AUGUST 27, 1870.

### THE GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND.

The little and prosperous town of Cwm Avon, Glamorganshire, owes its rise and advancement entirely to the works which are carried on in its midst by the Governor and Company of Copper Miners in England. About 3000 workpeople are engaged therein, the works including the make of iron, the manufacture of copper, tin, chemicals, and the winning of coal; and the dependents of the 3000 men employed in the works constitute the town of Cwm Avon. That the company have been most solicitous for the moral and spiritual, as well as the temporal, welfare of their employees is evinced from the fact that they have founded and supported schools, two churches, chapels, a savings' bank, and other means of social improvement; the whole surroundings of the Cwm Avon works denote prosperity, both material and moral. Upwards of 1,000,000£. sterling have been expended on the works, and the capabilities for the production and manufacture of various articles are both extensive and complete, and the works would doubtless, under favourable circumstances, earn a fair return upon the large capital which has been expended. For nine years past, however, there has been no dividend, and the Chairman and directors some time since endeavoured to trace and also to remedy the cause of the defect. Various recommendations are now made, involving an increased expenditure of some 30,000£., but the chief and most important demand in the report is that the works' manager, Mr. WILLIAM PRICE STRUVE, should be superseded. It is most satisfactory to find that there is no charge made of incompetence or want of scientific skill and ability, but simply want of energy and that indomitable “push” in a manager so absolutely essential in a large works of this description. The directors in these recommendations have not only exercised their right, but would have been neglectful of their duty towards those whose interests they had in their keeping, had they for a moment allowed personal considerations to have influenced them in their decision. The directors, or, as they are termed, the Court of Assistants, state that they recommend the appointment of another manager “with very great reluctance, appreciating as they do the many good qualities of Mr. STRUVE.” Mr. STRUVE is an able scientific man, but he lacks that very essential which makes to pay such works as those of which he had the control.

But whilst there has been no dividend, it speaks well for the general stability of the concern to find that they have been able to bridge over the very depressed and disastrous time which has been experienced in connection with our staple trades. As a rule, prices have been so depressed that there has been a positive loss upon the manufacture of iron, copper, and tin. Within the past nine years how many once flourishing concerns have collapsed altogether; works of equal magnitude to those at Cwm Avon have been obliged to succumb to the exigencies of the times; crash has followed crash, failure has followed failure, and ruin has come where a few years since it was least expected. The past nine years have, indeed, been troublous times for our manufacturing and mining interests, and although the directors and shareholders of the Cwm Avon Company have to deplore the absence of dividends, still the fact of the works having been held together at all during that trying period is proof of the stability of the concern, the splendid facilities which it contains in itself under favourable circumstances, and in more prosperous times, to pay good dividends, and it also proves that the general manager has had the prudence and caution to avoid those commercial shoals and quicksands which have involved the wreck of other undertakings.

The Court of Assistants have made other important recommendations for the further development and improvement of the works. They very properly regard the cost of the winning of the coal as of vital importance to the success of the company; and when the average output from the company's collieries have during the past nine years been no less than 209,000 tons per annum, the importance of effecting a saving in this department must be self-evident. The average cost of the raising of coal at Cwm Avon for the past nine years has been 6s. 9d. per ton, and if at one time it was only 4s. 11d. per ton there is room for enquiry, and, probably, a material reduction in some department or other. These figures point to the appointment of an able mining engineer, whose whole time should be devoted to the development of the mines, and who should be responsible to the Court of Assistants for the profitable raising of coal as of primary importance to the success of the whole commercial enterprise of the Cwm Avon Works. Increased railway facilities to the neighbouring ports is another important recommendation of the Court of Assistants, and there can be no doubt with narrow gauge communication with Port Talbot, Neath, and Swansea, a great impetus would be given the export of the various manufactures of the company, the import of iron ore and other raw materials would be expedited, and the cost of transit materially reduced.

Regarded as a whole, the supplementary report of the Court of Assistants, presented to the shareholders at their meeting held last week, proves that it emanates from able men, determined, at all sacrifice of personal considerations, to do their duty to the shareholders, and to strive to the utmost to develop, and still further improve, the splendid property which they have under their control. There need be no fear as to the result: the past depressed state of our manufacturing and mining interests is, to an extent, passed; the Cwm Avon Works still exist, with abundant facilities at command to take advantage of

the improvement which all hope will shortly set in; and with energy and “push” on the part of the new manager of the works, and improved railway facilities, the shareholders may safely look forward to a better state of things than has existed for the past nine years.

In another column of this day's Journal will be found a letter which has lately been addressed to the Editor of the *Western Mail* by “An Old Inhabitant of Cwm Avon.” We reprint it, because it has reference to a proposed line of railway, which would be of the greatest possible benefit not only to the Cwm Avon Works but to the entire neighbourhood.

“An Old Inhabitant” says the absence of the proposed line is “a reproach to the directors who have failed to recognise its importance,” but judging from the following, which we have extracted from former reports of the Governor and Company, it would seem that the fault does not lie with the directors:

Extract from report April 8, 1869:—“A railway company, which possesses parliamentary powers for the construction of a line of railway through the Avon Valley, was encouraged by the Court of Assistants to apply this session to Parliament for power to vary their route. The variation route was surveyed and proposed by Mr. STRUVE, and was subsequently reported upon most favourably by Mr. TURNBULL, the last elected member of the Court of Assistants, and a high authority in such matters. By the construction of only three miles of the large mineral railway and district could be connected with the private line of the Cwm Avon Works, and by the latter with Port Talbot. The Court of Assistants much regret to add that the railway company found it necessary to withdraw the Bill, but they hope that the boon which such a railway would be long delayed.”

Extract from report of April 7, 1869:—“The item of low charges is heavier this year than usual, in consequence of the support given by the company to the Avon Valley Railway Bill, which, with the kindred subjects of Port Talbot improvements, and the laying down of narrow-gauge on the Great Western Railway, between Port Talbot and Neath, was referred to in the report of last year. It is much to be regretted that no further progress has been made with either of these three undertakings, all of which would be of such great advantage to the Cwm Avon Works.”

We would recommend “An Old Inhabitant” to obtain a good subscription list for the shares of the railway undertaking, and we have little doubt that further opposition to the scheme would then be effectually overcome.

### ANOTHER FATAL COLLIERY EXPLOSION IN THE WIGAN DISTRICT.

Last year no fewer than three great explosions occurred in and about the Wigan district, causing the death of 93 persons. As a result, whilst the number of fatal explosions in the year 1869 in the West Lancashire and North Wales inspection districts, of which Wigan is a part, was fewer by four than in 1868, the loss of life from explosions in 1869 was greater by 12. The circumstances under which this great loss of life took place may be thus briefly sketched.

On April 1 an explosion, which caused the death of 37 persons, happened in the Orrell Four-feet Mine, at High Brooks Colliery, Park-lane, near Wigan. Although this mine had the character of emitting gas, none had been seen therein, the area then opened out being very small. The ventilation seemed adequate, under ordinary circumstances, to keep the working places clear of gas, provided other regulations were attended to according to the established custom. After the explosion there was found a shot hole improperly drilled beyond the top of the coal and into the roof of the mine. From that cause, combined, perhaps, with that of not having been properly charged, it had evidently blown out without breaking down the coal. The coal on the sides of the roads and the roof of the mine was burnt and charred for a long distance, much beyond that which gunpowder could possibly produce notwithstanding a number of exploded powder-cans lay scattered in all directions. Under these circumstances it appeared to Mr. HIGSON, the Government Inspector for the district, very clear that a quantity of explosive gas had accumulated in one of the working places next to that in which the shot had been fired, and that this gas the flame of the blow-out shot had ignited. A fireman was regularly employed there to make a daily inspection of all the workings, and remove gas, if he found any, before a shot was fired. This man must, therefore, either negligently or inadvertently have omitted to examine all the places in that particular part of the mine. Hence the accident. Negligence in this case was the more criminal, inasmuch as in 1866 a serious explosion happened in the same mine, and the treacherous character of the place required more than ordinary care in the management.

The most serious explosion of the year occurred on July 21, in the Nine-feet Mine, at Haydock Colliery, near St. Helen's, and resulted in the death of 59 people. The working presented strong indications of a shot-hole having been charged and blown out up one of the brows. That shot neither the fireman nor the shot-lighter could have ignited. The work must have been done by one of the men contrary to orders, and before the places were examined by a competent person.

On Nov. 15 an explosion of fire-damp happened at the Low Hall Colliery, Wigan, which, besides killing 27 persons, set the mine on fire, and led to great financial loss. Here, again, a shot fired by the shot-lighter had blown out and ignited the gas. If this man, or a fireman, had carefully examined some of the working places adjoining the one in which the fatal shot blew out in all probability the issue or accumulation of gas would have been discovered, and this serious calamity avoided. It transpired that the shot-firer was not in the habit of doing so, and it did not appear that he was ever required to make such an examination. Neither (writes Mr. HIGSON in his report to the Home Secretary) was it customary where other explosions have happened.”

The calamities up to this date this year lead to the inference that 1869 will close less disastrously to West Lancashire. Would that we could add that no great explosion has taken place there this year. Such a record is prevented by the disaster that happened on the morning of yesterday (Friday) week, has deprived 20 poor colliers of life, 9 women of their husbands, and rendered 20 children orphans. The place of the accident was Brynn Hall Colliery, Ashton-in-Makerfield, a short distance from Wigan. The colliery is situated on the estate of Sir ROBERT GERARD, a short distance from the Brynn Station, on the New Lancashire Union Railway. It is carried on by Messrs. W. and J. B. CRIPPIN, and is one of a number which have recently been opened, in order to cover the extensive coal fields in what has until recently been a purely agricultural district. For two or three years the Four-feet seam alone has been worked, but within the past few months the Wigan Nine-feet has been gotten to a limited extent—so limited that the plan of the workings only occupies a few square inches, the most distant place being not more than 120 yards away from the shaft, which is about 180 yards deep. To begin work for the day some 150 men or so went down the mine, some 40 of them descending to the Nine-feet. All went on well till about 9 o'clock. At that hour there was an explosion of so great a force that in an instant the woodwork about the upcast, where the chief force would seem to have vented itself, is described as a mass of ruin; bricks and large pieces of timber being hurled from the pit mouth, and doing much damage about the entrance to the shaft. The operations to recover the 100 men from the Four-feet, and to bring away the wounded and the dead from the Nine-feet, were conducted vigorously by the authorities of the colliery, assisted by their competent neighbours.

At one time it was feared that the works were on fire, but it happily turned out that only a little prop wood and bracing had ignited. The explosion had taken place in one of a couple of levels, which run from the downcast shaft in a direction nearly north and south. In the easterly level there were “keen” indications of the presence of explosive gas, and it was in the westerly one where the coal was at first supposed to be on fire. By Saturday morning the return air tested at the top of the upcast was found to contain gas enough to fire in the lamp.

Clearly, therefore, there was plenty of gas after the explosion. That the workings were not free before the accident seems certain. At the same time the colliers did not complain, indeed spoke, most of them, of the abundance of the ventilation. The coroner's enquiry has begun, and until it is over we shall neither discuss the cause nor cast blame upon anyone. Nevertheless, it seems placed beyond doubt that between this accident and the three of last year there is a somewhat close resemblance. The seam was the same as that which was the scene of the Low Hall Colliery and the Haydock Colliery explosions; and the disaster was preceded by the firing of a shot which, contrary to instructions, had been rammed in before the hole had

been examined by the fireman. He, too, poor fellow, was killed directly he had ignited the charge, thereby sharing the fate of the firemen in the Park-lane and the Haydock explosions, and of the shot-lighter in the Low Hall case, all of whom, like this man, were killed upon the spot. The great source of evil will, probably, be mine requiring, from every grade of workmen, the strictest attention to all the means of safety enjoined upon them by pit regulations otherwise within their reach.

### THE LLANSAMLET COLLIERY EXPLOSION.

The official investigation into the cause of the late lamentable catastrophe at the Charles Pit, Llansamlet, Glamorganshire, where 30 poor fellows lost their lives and 19 others were seriously injured was concluded on Friday last. In the Journal of Aug. 6 we took occasion to refer to this explosion, in order to point out the danger and the inconsistency of working in proximity to old workings with naked lights, and also the necessity which is imposed upon our Government to insist upon the entire abandonment of candles in all collieries. The Government Inspector for the district (Mr. T. E. WALES), and also the coroner's jury who investigated the case, have to a great extent endorsed our observations, whilst the general evidence given confirms the view we then took. The colliery in question had been worked for a great many years, and although not very extensive it underground operations had been pushed into very close proximity to some old workings, known as the Tyr Cenol. Not only were the old workings known to exist, but they had been frequently tapped and borings had also been made, and as gas was found in the old workings bore-holes were plugged. Other precautionary measures seem to have been adopted to prevent the exuding of the gas from the old workings, and men were engaged night and day in attending to the plugs and other matters in connection with the places from which danger was expected. Such being the case, it does not seem surprising that the general manager of the pit should not have given the most peremptory orders for the use of locked safety-lamps only. We have no desire to reflect unduly upon the manager; probably the happy immunity from accidents in this pit rendered all parties more indifferent to their own safety than they should have been. The Government Inspector, in his evidence, states that the explosive gas escaped from the old workings, that the quantity of gas which there circulated (only about 9000 or 10,000 cubic feet per minute) was too small to properly dilute and render harmless this gas, hence the explosion. Mr. WALES thinks that the current of air circulating in the vicinity of the old workings should be at least 20,000 cubic feet per minute, and that locked safety-lamps should be allowed there. The coroner's jury took the same view of the case, and appended an official recommendation to that effect to their verdict.

We have no doubt that the views of the jury will be carried out in their entirety by the managers of the colliery in question; but, for our own part, we would that the Llansamlet catastrophe should have still wider scope, and that it should teach one great practical lesson—the entire abandonment of all naked lights in collieries. The Government Inspector has not hesitated to say, in reference to this event, that had safety-lamps been used the catastrophe would have been avoided. If safety-lamps are advantageously used in any colliery why not make their use compulsory and general? The lesson taught us should not be thrown away, and we believe our colliery proprietors would rejoice to see a Government enactment which should condemn the use of naked lights in all pits, and that such dangerous working in connection with our collieries should be regarded as thing of the past.

### SIGNALLING UNDERGROUND IN COLLIERIES.

The importance of a better system of signalling underground in collieries than that at present adopted formed the subject of a very interesting paper recently read before the Midland Institute of Mining Engineers by Mr. BAILEY, of Wakefield. He asserted that the magnetic system would be found invaluable for colliery purposes, the advantage claimed for signalling by such means being its simplicity, by which the intelligent colliery mechanic could master all its details in a very short time, and with very little observation; and that in case of breaking it was very easily repaired, the only breakage that he had met with being from a fall of roof. In the case of a rope on a steep incline breaking, the probability was that the corves would run down as far as the face, dealing destruction in all directions. By the signal, warning could be given in an unmistakable manner to the man at the far end by a prolonged ringing from the engineer—the man, above all others, the soonest aware of any breakage of the rope. The system was the managing of two wires connected to a small magnetic battery. Two copper wires were stretched from one end of the machine, or round to the other end, a bell being attached to each extremity, being parallel to each other, so that by the pressure of the finger and thumb they could be held together. By that means a signal was transmitted—in technical language, a current of electricity was established from one pole of the battery, which was placed near to the engine-house, to the other pole, on its way actuating all the bells through which it passes. Spikes were driven into the coal near the roof, at a distance of about 10 yards apart, to support the two copper wires. The sump at the shaft bottom, or the sump in any locality, would be made to announce, by the bell, that it was full of water. The apparatus, a model of which was exhibited, could be as effectual in signalling from Barnsley to London as for a short distance, for there was no limit to its efficiency, so far as distance is concerned. One battery would be sufficient for a colliery, and would only require to be renewed three or four times a year, at a cost of a few shillings. But much would depend on the amount of work got out of it, the longer the distance, however, requiring to be signalled over the cheaper the system proportionately became. The bell, we might say, could be arranged to give a dead vibrating motion, if the engineer was absent, or neglected to attend to the signal, the bell went on ringing; if the men required signalling out of an incline, a so pre-arranged signal could be acted upon; in fact, the bell at the far end could only be rung by the engineer for the purpose of a warning of danger. Every ring of the bell would have to proceed from the engine-room, and could be made to act in all parts of a colliery. The system could be applied and varied in many ways. There were no pulleys or any complication whatever, and the engineer and hanger-on could converse together and express their respective wishes and desires in a manner which could not be mistaken by means of the bell. In conclusion, Mr. BAILEY said it would be a source of gratification to him if he should have contributed to the adoption of a system of successful signalling in collieries, and in seeking for that purpose the aid of a science which had been too much neglected in improving their general engineering arrangements in mines, both above and underground. The value of the paper was fully recognised by the engineers present, and a cordial vote of thanks was awarded to Mr. BAILEY for his contribution, the system advanced being considered an important improvement over the present mode of signalling in underground workings.

**COAL FOR THE ADMIRALTY.**—The full reports of the experimental trials of Welsh and North Country coals (recorded in the Journal of July 23), made during the last 12 months on board HER MAJESTY's ships Lucifer and Urgent, at Portsmouth, have now been issued. The Urgent has two sets of boilers, each with an independent funnel, affording an opportunity of comparing and testing the old and new forms of furnaces; the new, or smoke-consuming furnace, differing from the old mainly in being fitted with a hanging-door below the bridge at the back of the furnace, on which is fitted a gridiron slide, for varying the quantity of atmospheric air admitted into the combustion chamber from the ash-pit, for the purpose of producing combustion of the products of combustion. The trials with improved furnaces demonstrate that with Welsh and North Country coal mixed in equal quantities there is nearly the same amount of smoke as with best Welsh coal in ordinary furnaces; there is a saving of fuel of 14.83 per cent, with an increase of power of 7.56 per cent, giving a gain of 22.39 per cent; there is less ash by 21.15 per cent; less soot by 52.21 per cent, thus enabling a vessel to run double the time without cleaning the fires to w

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Without cleaning tubes; less clinker by 23·64 per cent., thus allowing the fires to work longer without cleaning. A comparison of coals shows that by using all Welsh coal fresh worked there is a saving of 10·66 per cent., as compared with mixed, used in the same furnaces; but there is an increase of ash by 10·66 per cent.; there is less soot with mixed coal by 35·33 per cent., than with Welsh; there is less clinker with all Welsh by 15·5 per cent. Even used in the altered furnaces, which are decidedly unfavourable to Welsh coal, there is a small saving in using all Welsh, if fresh worked and of best quality; but it is considered that the less soot and ash with mixed coal more than compensates for the difference. With regard to the prevention of smoke, it is probable that most of the smoke-preventing contrivances would accomplish this, so that the less valuable North Country coal could be burnt without smoke when Welsh was beyond reach, and yet the old furnace could be retained. An excellent furnace-door, invented by Messrs. WRIGHT and Co., of Homerton, was described and illustrated in the *Mining Journal* of May 10, and would, no doubt, prove quite as favourable to the use of North Country coal as the bridge door and gridiron proposed by the Admiralty officials, whilst the cost of applying it would be less than the cost of the bridge door and gridiron. We understand that Messrs. WRIGHT and Co.'s invention will be thoroughly tested at Portsmouth, and as it is equally applicable, whether Welsh or North Country coal be used, it is in every way deserving of success.

## THE ELSECAR IRON WORKS.

There are few works in the southern part of Yorkshire better known than those at Elsecar and Milton, belonging to Messrs. W. H. and G. Dawes, and who, as a private firm, are amongst the largest producers of pig-iron in the kingdom. They have six furnaces at their works in the West Riding, three in North Lincolnshire, and four at Denby, in Derbyshire. Elsecar has long been noted for the production of a superior quality of rail, which has a high reputation in the market, and for which there is now a very large demand—so much so that the firm have nearly completed a new mill, which will shortly be in operation. Very extensive alterations, however, are being made at the works, it having been determined to put down a number of puddling-furnaces on Siemens' patent, by which the heat is obtained by gas, and in connection with which they will be worked by Whitham's patent puddling-machine, or mechanical rabble as it is termed, by which a good deal of manual labour will be dispensed with. Although necessitating a very large outlay at starting, from the extensive character of the works for producing the gas, &c., yet they are ultimately found to be economical, seeing that by them a "heat" will consist of from 15 to 20 cwt. of iron, instead of about 4 cwt. by the ordinary furnaces, whilst it is calculated that there will be a saving of something like 50 per cent. in fuel.

There are to be six double puddling-furnaces complete, so that when in full operation there will be a very large increase in the output of puddled iron. At the present time there are 36 puddling-furnaces, but owing to the weather they have not been fully worked, so that the firm has been unable to obtain sufficient for their requirements. The four blast-furnaces, two of which are new, are iron-cased, the waste gases being utilised in the usual manner in heating the boilers. The mills comprise a plate one, 22-in. train; a rolling-mill, with 18-in. train; and the new mill, now nearly finished, a 20-in. train, which will be connected with two of Howard's patent safety-boilers, besides which there are nine vertical boilers—five in the forge and four in the mills, most of them about 20 ft. long. There are also two engines, each of 120-horse power, a steam-hammer weighing 5 tons, and three others weighing 2 tons 15 cwt. each. The two furnaces at present in blast are capable of making 40 tons of iron every 21 hours, so that when the four are in operation there will be produced from 500 to 600 tons per week. The plates made by the firm are in high repute, and about 15 tons in a shift of 12 hours are made, and 25 tons of rails in the same time.

At the works at Milton, in connection with Elsecar, there are two blast-furnaces, 24 puddling-furnaces, two sheet-mills, a merchant-mill, and a guide-mill, with a foundry where heavy castings are made. The ironstone used in the production of the pig is a mixture of the local greystone, which is calcined, and the brown ore of Lincolnshire, the two making a very good description of iron. The local ore is from the mines of Earl Fitzwilliam, with whom the Messrs. Dawes have a very profitable contract for the supply of a certain quantity weekly. They are also in a similar position with regard to coal, which they get much cheaper than could be supplied by any colliery in the West Riding. The contract was entered into by the late Earl for a number of years at a time when coal was very cheap, and wages much less than at present. Two or three years since the present Earl endeavoured to have the agreement cancelled, but after a good deal of litigation it was found to be binding, although admittedly unprofitable. The stone from Lincolnshire is obtained on the ground leased by the Messrs. Dawes, near to the Trent, and is brought direct to the works by railway, there being a branch line from the South Yorkshire. The wagons in return take back coal and coke for the use of the furnaces. There are drops, and all necessary appliances for taking the stone to the furnaces whilst machinery of the best and newest description, to economise manual labour, is to be found in connection with all departments. Owing to the works and the collieries, the villages of Elsecar and Hoyland, which adjoin, have become very important places, the Earl Fitzwilliam, who is the principal owner of property, having made the former in particular a really model place for working men to reside in, the houses being good, with gardens, whilst the streets are lighted with gas. There are also excellent schools, a fine church, and several dissenting places of worship.

## METCALF'S FURNACE FOR THE FUSION OF MINERALS.

Translation of an Article in the Florence newspaper, the "Giornale delle Arti e delle Industrie" (Journal of Arts and Industries) of August 13.]

We have received some explanatory details respecting the new furnace for the fusion of minerals invented by Mr. GEORGE METCALF, of Pertusola, near Spezia, for which he has secured patent rights in Italy, France, Belgium, Germany, England, and Spain.

We cannot to-day explain the fundamental bases of the system, inasmuch as to do so completely and clearly diagrams would be necessary. But in the meantime it will not be uninteresting to give in our Journal some particulars relating to and comprising the essential features of the invention. Mr. METCALF's furnace holds continuously four charges, which are divided as follows:—Two in one of the chambers, one in another chamber, and the last on the side of fusion. These charges average 1500 kilogrammes of mineral; they are removed after the processes of extraction of sulphurous parts, combination, and fusion have been accomplished. Every charge is drawn after about 24 hours from the time it was first put into the furnace, so that one is drawn every six hours. The dross (ashes, waste, refuse) is afterwards treated in draught furnaces adapted for the purpose.

In modern industrial inventions two objects are mainly sought to be attained—quality or excellence of workmanship, and economy in production. This system appears admirably to secure these conditions. The treatment of the minerals is, according to the assertion of competent judges, carried out with true perfection, and the economy in working is very considerable, as it is brought to bear in several ways, such as fuel, labour, repairs, and the materials and utensils in general requisite for this furnace.

To all this the inventor adds that a very important saving is derived from the very limited loss of volatilisation under his system as compared with the ordinary process, under which, as is well known, the loss is ordinarily very considerable. The economy (saving) in fuel is in these proportions—that while with the old reverberating furnaces the expense was from 26 to 28 frs. of coal to every ton of minerals, with this new furnace the expense for the same quantity of mineral does not exceed 5 frs. Wear and tear of material and plant is reduced by two-thirds. Manual labour can scarcely be estimated as equal to what is required for the old furnace, and we are assured is much simplified. The diminished loss of volatilisation remains to be taken into account; this may be estimated at from 2 to 3 per cent., as compared with the loss under the old system. This is accounted for as follows—that under Metcalf's system, instead of burning the lead (thereby producing smoke and vapour), the lead is, by

not being brought under the action of heat so intense as in the old systems, not volatilised or oxidised, but simply metallised.

For the above reasons we have considered it not inopportune to call the attention of our readers to the very useful nature of this recent invention. The furnaces can be constructed of a medium length of 10½ metres, with a breadth at the widest part of 4½ metres, and a height of 2 metres.

For the present we restrict ourselves to the preceding remarks, but as it is evident that the subject is one of very great importance to the mining interests, we shall not lose sight of ulterior and more ample details, with which we shall return to the topic in due season.

THE EDITOR.

THE IRON AND STEEL INSTITUTE.—The next meeting will be held at Merthyr Tydfil, commencing Sept. 6, under the presidency of the Duke of DEVONSHIRE. Papers will be read and discussed on the mornings of Tuesday and Wednesday. The extensive iron works at Dowlais, Aberdare, Cyfarthfa, Swansea, Ebbw Vale, &c., will be visited on the afternoons of Tuesday and Wednesday, and also on Thursday and Friday. The local ironmasters are making extensive arrangements for the hospitable reception of the Institute, and a very successful meeting is expected. About 150 members have already signified their intention of being present. A considerable number of new members will be elected at the meeting.

DYNAMITE.—Messrs. NOBEL and Co., of Hamburg, have just erected and opened a very large Dynamite manufactory at Prague, to meet the demand in that locality, which is immense, dynamite completely superseding the use of gunpowder in the mines and quarries in Germany. It is greatly to be regretted that the patented interests of Government officials should in this country be allowed, under the influence of the present Government, to interfere with the free use of so safe and valuable an explosive as dynamite, and that our mine and quarry owners should have such impediments thrown in their way that they are in effect precluded the advantages which are open to the Germans and other continental nations.

ALLUVIAL GOLD IN NORTH WALES.—In last week's Journal we called the attention of our readers to the fact of considerable alluvial gold being lately found in the River Mawddach. We are now informed that the directors of the Gwynfynydd Company are determined in consequence to drain the large basin at the foot of the celebrated Rhaiadr Mawddach waterfall, and they commenced operations last week. This will be a work of considerable difficulty, but of a most interesting and exciting character. Experiments have been made in California with the same object, but we doubt very much on so large a scale. A level of some length has been already driven through the solid rock, which will lower the pool at once about 4 feet, and give that additional height to the waterfall. Of course, if rain and floods set in the works will have to be suspended. However, it is expected, with great exertion, to get all the water out by Tuesday next. The result is of a highly speculative character, and will depend a great deal on the nature of the gravel and debris at the bottom. As all the rich reefs are above the pool, and a large coarse gold has been found below the pool, it is only reasonable to suppose that a large quantity will have been in past and countless ages deposited in the pool itself. On the other hand, the force of the waterfall—60 feet high—may have denuded the subjacent rocks of all their supposed treasure. It is a bold experiment, and if successful it will not only benefit the shareholders, but entitle the projectors to much praise. One thing is certain, that a large quantity of splendid trout and sevin will be captured.

GEOLOGICAL SURVEY OF CANADA.—Sir WM. LOGAN, late Director, having returned to Montreal, is engaged in revising the Reports for 1869. Mr. SELWYN, his successor, is now in Nova Scotia, examining its gold fields. Mr. EDWARD HARTLEY, F.G.S., Mining Engineer to the Survey, is also in that Province, and has begun the yearly inspection of its collieries. Both gentlemen will probably remain there until the approach of winter.

BRITISH AND CANADIAN COAL.—The main seam of the Springfield coal field, Cumberland, Nova Scotia, has been carefully examined and reported upon by Mr. EDWARD HARTLEY, F.G.S., mining engineer to the Geological Survey of Canada. The coal is highly bituminous, or fat caking coal, very similar in character to that of the North of England. It is an admirable gas coal, and the amount of sulphur is below the average of Newcastle coal. The coke appears well adapted for iron smelting, and with regard to the quantity of ash the Springfield coal bears favourable comparison with British and with other American coal. The subjoined will show the relative constituents of the several coals:—

Volatile matter water included	35·50	37·60	35·39
Fixed carbon	60·50	57·00	60·46
Ash	4·00	5·40	4·15

Total ..... 100·00 100·00 100·00

Whether it is to be considered a detached coal field or a portion of the great Cumberland coal field of Nova Scotia is still open to question; but the region appears to warrant the most careful examination. At present no active collieries of any extent exist in this coal field for want of communication with tide water, but the completion of the Intercolonial Railway will effect communication not only with the Bay of Fundy, but with the Basin of Mines, Halifax, and many other points where the coal will be in demand.

THE PENNSYLVANIA COAL STRIKE.—After four months of suspension of work in the anthracite coal region, a compromise has been effected between the operators and the men. The following is stated to be the substance of the agreement made between the committee of the anthracite Board of Trade and the committee of the Working Men's Benevolent Association:—Discharge of men may be made for incompetency, bad conduct, or other just cause, but not for carrying out the orders of the Working Men's Benevolent Association. The equalisation resolution passed by the Working Men's Benevolent Association is that miners are to work regularly, and that any miners making over \$100 are to be liable to a reduction of from 10 to 40 per cent., according to the amount. The rates of wages are to be fixed each month in accordance with the prices of all sizes of coal above peat at Port Carbon. This is to continue during 1870. The agreement is signed by five operators selected by the President of the Board of Trade and President of Working Men's Benevolent Association.

THE COALS AND IRON ORES OF PICTOU COUNTY, NOVA SCOTIA.—In an interesting appendix to reports on the Pictou Coal Field, by Mr. EDWARD HARTLEY, F.G.S., full descriptions and analyses of the coal from the Pictou coal fields are given. There is some valuable information on the albertite, stellarite, and other oil coals and shales, and an elaborate paper on the practical trials of Pictou coals. The results obtained, although the trials were made under various conditions, appear to have been in all cases very satisfactory.

AMERICAN ROOFING SLATE IN ENGLAND.—The excellent quality of the Vermont slates has several times been referred to in the *Mining Journal*, and it appears that the proprietors of the quarries have now undertaken to compete with Welsh slate even in England. It seems that some two months since a cargo of the slate was shipped to England, with a view of introducing it for ornamental roofing. The result has "more than met the expectations of the shipper, and he is confident in the belief that England will want all of Vermont's Unfading Green Slate." The August shipments will exceed those of any previous month this season.

THE NORTHERN RAILWAY OF SOUTH AUSTRALIA.—Under the title of "Our Northern Country: its Resources and Development," a pamphlet has been published by Messrs. ANDREWS, THOMAS, and CLARK, of Adelaide, in which it is remarked that the importance of fostering the opening up of the country has been recognised by successive Parliaments, who have legislated session after session with the view of encouraging the construction of a railway by English capitalists, which is the only means of transit that can overcome the peculiar circumstances of the climate. The existing Act, offering 5 per cent. guarantee on a construction expenditure of 3750/- per mile, has not been found sufficient for the purpose, but it is considered that if the guarantee were increased to 6 per cent. on construction expenditure of 4000/- per mile, the work would be carried out with English capital at once. The enormous mineral wealth of the district,

for the development of which the railway is required, has been established by the workings and surveys already made; but these are comparatively worthless until a railway is provided.

## TRADE OF THE TYNE AND WEAR.

Aug. 25.—A great lull has taken place in these ports lately in most trades, the arrivals of ships have been comparatively few, and little has been done in imports and exports, with the exception of the Coal Trade, in which a fair amount of business continues. Freights are not so good quite, yet they are considerably better than they were before the war, at least 2s. per ton for coasting freights, and foreign freights are higher in proportion. However, on the whole, trade was decidedly flat last week, the great fall in the grain trade having put an end to the speculation in that branch, and the continental markets appear to be, with the exception of Hamburg, glutted with coals. Of course, merchants are not anxious to deal with France in the present unfortunate position of that country. The demand for coke and coking coal continues, and a fair amount of business is done in most descriptions of coal. The Iron Shipbuilding Trade is brisk, most of the iron works, &c., are pretty well employed, and the great works at Elswick are, of course, very busy, especially in manufacturing guns. The annual *soiree* in connection with those works was held on Saturday, in Newcastle, and, as usual, was well attended. There is a flourishing Mechanics' Institute and schools in connection with the works, and it appears from the report that there are 3403 books in the library. Of 149 pupils who had entered the evening classes at the beginning of the season, 73 presented themselves for examination by the Science and Art Department on one or more subjects, and of those who came up 53 passed, but as many of the pupils attended several classes, there were only 3 per cent. who failed to pass on some one subject. The total income for the year had been 2987. 7s. 9d., of which 2107. 4s. 3d. had been received from the treasurer of the general fund formed by subscriptions of the workmen. The school report was highly satisfactory. The average attendance of boys had been 282, of girls 290, and of infants 285—total 767, of whom 481 were present at the examination. The number who passed the examination in reading was 477, in writing 477, and in arithmetic 458. The income had been 10167. 1s. 1d., and the expenditure 1242. 2s. 10d. Sir William Armstrong expressed his pleasure at meeting so respectable a company, assembled not only for the purpose of rational recreation, but able to testify their sympathy with the object for which the schools had been established. He had great pleasure in congratulating them on the continued prosperity of both institutions. The school had been highly eulogised by the Government Inspector, and the attendance had been larger than at any former period. The newly-established science classes had been highly successful, so much so that out of a very large number who had gone up for examination an unusual number had passed. The state of the institute and schools reflected great credit on all concerned, and he hoped that such a condition of things would long continue.

The Iron Trade, of course, cannot be expected to improve in the present state of affairs on the Continent, but there appears to be a hopeful feeling amongst ironmasters that the war will soon be ended, and if this should happen the iron will, without doubt, experience a rapid improvement. Prices are much lower, and no scale is adhered to; yet there is no deduction on the amount made or sold; indeed, the quantity sold increases—that is, pig-iron—as is shown by the fact that the stock at Middlesborough continues to decrease.

At the Addison Colliery, one of the coking collieries west of Newcastle, the men have given notice that they require an advance of price, but this demand is not likely to be acceded to, as the masters consider that a very good price is paid at present, and certainly fair wages are made by the majority of the men. An excellent coking coal is got here from the Brockwell seam, although the seam is rather thin, and a large quantity of coal has been laid up in anticipation of the possibility of a stop, if this demand of the men should be persisted in.

A Dutch man-of-war has been in the Tyne Dock this week, for the purpose of receiving her complement of Armstrong guns.

## REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Aug. 25.—The Iron Trade appears to be a shade quieter. The demand for the ordinary small makes continues sufficient to keep the works fairly employed in the production of these sorts, but few specifications are received of a heavy character, and there are less orders on the books. The United States demand continues to be the mainstay of the trade, and there is a fair amount of iron being made for India, but generally orders are smaller, and the end of the quarter hardly seems likely to be so brisk as the beginning. The further reduction in the rate of discount may help to strengthen the trade, but it is probably mainly the result of the withdrawal of capital from commercial channels, owing to the interruption the war occasions. The Hardware branches show no great change. They are not generally brisk, but there is a moderate demand, and no serious cause for complaint.

A meeting of delegates from the ironworkers of the South Staffordshire district decided on Saturday, but only after a long discussion, to "appeal" to the masters for an advance of 1s. per ton for puddling, and a proportionate advance for millmen and other classes of ironworkers. The document is to be sent to the Chairman of the South Staffordshire Ironmasters' Association, who is to be requested to lay it before his colleagues at the next meeting. That would ordinarily take place on the last Thursday in September, but the men appear to understand by a meeting the weekly assembly of the trade at the Wolverhampton and Birmingham Exchanges. The grounds adduced to justify the advance are that the trade has revived in consequence of the Franco-Prussian war, which they say is proved by the reduction of the stocks of puddled bars in the district; and they allege that the puddlers have been pressed to begin on Monday mornings, in order to enable the other departments of the works to be supplied with puddled bars; and they further allege that there is a want both of puddlers and under-hands. They also assert that whilst wages were reduced 1s. per ton iron was only reduced 10s., or half the usual proportion in 1868; and that in 1869, when trade revived, the men were raised 6d., and the price of iron advanced 12. This latter statement is quite incorrect. The reduction of 1s. brought the men to the old scale in reference to the price of iron, which is that they receive in shillings what bars are in pounds. It was decided to hold another meeting on Monday next, to receive the reply of the masters. One remark may be made with reference to this "appeal"—that its arguments are confined to the case of puddlers. There is a general conviction that this class is now underpaid in comparison with the other ironworkers, and Mr. Williams, manager of the Patent Shaft Works, sought to redress the grievance some time ago.

The *Mining Journal* took an active part in endeavouring to preserve to the miners of South Staffordshire the surplus of the Hartley Colliery Fund allotted to the district, as a nucleus for a relief fund for the men in case of accidents, it having been proposed that it should be devoted to the enlargement of the South Staffordshire Hospital. The trustees of the Fund assented to change their decision, provided the men raised 500L. After many appeals only 70L. of this sum is forthcoming, and it must now be concluded that the miners are so indifferent to making a provision for themselves in case of injury, or for those dependent on them should they be killed, that there is no hope of securing the object desired. It is a very painful confession to make.

A penalty of 5L. and 12. 7s. 10d. costs, was inflicted upon Mr. Summers, chief agent of the Dark Lane Colliery, Shropshire, for neglect of the General Rule, whereby an explosion occurred, causing the death of two men. The pit was declared unsafe on the day preceding the explosion, and lamps were substituted for candles, but the witness who stated this said he was working in the same place on both days, and did not perceive any gas. The night men were not permitted to descend, all-pipes were laid down on the morning of the explosion, and the men went to work with candles until the explosion occurred. It was urged for the defence that the men had thrown back their dirt on the mouth of the pipes, and thus obstructed the air, but the Bench decided that due care had not been taken to avoid the accident, and inflicted the penalty named.

Amongst the shoal of limited joint-stock companies established prior to the collapse which swept away so many, and ruined multitudes, none has proved more genuine than the Patent Shaft and Axletree Company, at Wednesbury. The report for the year, presented at the meeting on Wednesday (yesterday) shows that the profit of 57,419/-, after paying 10 per cent. to the shareholders, admits of 15,000/- being devoted to the extension of the steel works. At the meeting the Chairman, Mr. T. Walker, simply observed that the report spoke for itself. This great works has the advantage of being under the control of Mr. R. Williams, one of the ablest men of business in the district.

The Midland Steam-Boiler Inspection and Assurance Company's half-yearly meeting was held at Wolverhampton, yesterday, Mr. G. Barker (the Chairman) presiding. The report of the directors showed that after paying 10 per cent. on the capital, the profits, amounting to 870/-, enabled 710L. to be added to the reserve fund, which is now 2400L. The boilers under the supervision of the company were:—Southern District: Boilers assured, 898; inspected, 933; total, 1831.—Northern District: Boilers assured, 687; inspected, 723; total, 1010;



## WATSON BROTHERS' MINING CIRCULAR.

great extension of mining business, the difficulty so often complained of by many shareholders in getting accurate and disinterested information as to the state of Cornish and foreign mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make their Circular published in the *Mining Journal* more extensively known, to state—

that they issue daily to clients and others who apply for it a price-list (as also, to most of the London daily papers), giving the closing prices of shares up to 4 o'clock.

they also buy and sell shares for immediate cash or for the usual fortnightly payment in all mines dealt in on the Mining and Stock Exchanges, at the close of prices of the day, free of all charges for commission. They deal, also, in the same terms, in the public funds, railways, telegraphs, and all other securities dealt in upon the Stock Exchange.

they are constantly getting mines for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

Further particulars in catalogues, which may be had on application to the Auctioneers, at their offices, 35, Princess-street, Manchester.

MESSRS. WATSON BROTHERS return their most sincere

thanks for the great patronage bestowed and confidence reposed in their

endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their

Circular, which has had a large circulation for many years, to the

of the *Mining Journal*, their special reports and remarks upon mines,

mining, and state of the share market, will in future appear in that paper.

the year 1842, when Cornish mining was almost unknown to the general

public, attention was first called to its advantages, when properly conducted, in

the *Compendium of British Mining*, commenced in 1837, and published in 1843,

Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners,"

and "Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish

Notes" (second series, 1863), "The Progress of Mining," with statistics of the

mines, and so on, annually for 21 years, &c., &c.

In the *Compendium*, published in the annals of mining has there been more peculiar need of honest and

experienced advice in regard to mines and share dealing than there is at present;

from the lengthened experience of Messrs. WATSON BROTHERS, they are

well qualified to offer, thus publicly, their best services to all connected with mine

the market, as they have for so many years done privately, through the me-

of their own Circular.

Messrs. WATSON BROTHERS are daily asked their opinion of particular

mines, as well as to recommend mines to invest or speculate in, and they give

advice and recommend mines to the best of their judgment and ability,

based on the best practical advice they can obtain from the mining districts;

they will not be held responsible, nor subject to blame, if results do not

exceed the expectations they may have held out in a property so fluctu-

ating as mining.

WATSON BROTHERS,

MINING AGENTS, STOCK AND SHARE DEALERS, &c.

1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

TAQUARIL.—We have before us a long letter, dated Ouro Preto, 1832, and published in the *Times* newspaper of Feb. 26, 1833, giving a description of mining operations in Brazil, and the reference in it to Taquaril throw some light upon the present prospects of that mine. The writer

"When Capt. Lyon (the discoverer of St. John del Rey) re-opened it had been abandoned for more than seventy years, and the obstructions occasioned

the debris of earth and falling-in of the galleries had partially blocked it

at the head of the labourers, and at the point of danger, Captain Lyon at last reached the vein of metal. \* \* \* Within a few weeks after several

pounds of gold were daily extracted, sometimes six or seven, and this quantity

was obtained by one-fourth of the labourers employed at the Gongo. At

the time the mine was worked by small pumps and a horse-engine, which was

soon overpowered, and the works filled with water. It has since been idle for

forty years, but now a new pumping engine, worked by water-power, is

at work, and the gold vein, according to last advices, again reached.

SATURDAY.—Market firm for Taquaril, Great Laxey, West Chiverton, and East Lovell at quotations. Taquaril, 30s. to 35s.; Great Laxey, 18s. to 22s.; West Chiverton, 3s. to 5s.; East Lovell, 3s. to 5s.; Great Vor, 8s. to 8s.; Tankerville, 15s. to 16s.; Providence, 3s. to 35s.; Van Consols, 2s. to 2s.; Van, 6s. to 16s.; Prince of Wales, 12s. 6d. to 15s.

MONDAY.—Market steady. West Chiverton, Taquaril, Prince of Wales, East Lovell, and South Condorrack chiefly in demand. West Chiverton, 3s. to 5s.; Taquaril, 30s. to 35s.; Prince of Wales, 13s. to 15s.; East Lovell, 3s. to 35s.; South Condorrack, 2s. to 2s.; North Crofty, 2s. to 2s.; Drake Walls, 22s. 6d. to 25s.; West Maria, 1s. to 1s.; Grenville, 3s. to 40s.; East Grenville, 2s. to 5s.; Don Pedro, 2s. to 2s.; Pacific, 7s. to 3s.

TUESDAY.—Market rather quiet-to-day. East Lovell batter; other prices remain the same as yesterday. East Lovell, 3s. to 34s.; Providence, 3s. to 35s.; Taquaril, 3s. to 35s.; Van, 6s. to 15s.; Van Consols, 2s. to 2s.; Creber, 11s. 6d.; Don Pedro, 2s. to 2s.; Pacific, 2s. to 3s.

WEDNESDAY.—The chief demand to-day is for Taquaril, Tankerville, East Lovell, and West Chiverton. Taquaril, 30s. to 32s. 6d.; Tankerville, 15s. to 16s.; East Lovell, 3s. to 34s.; West Chiverton, 3s. to 5s.; East Grenville, 2s. to 3s.; Cook's Kitchen, 15s. to 16s.; Great Laxey, 18s. to 19s.; Australian United, 1s. to 1s.; Pacific, 2s. to 3s.; Van Consols, 2s. to 2s.; Mary Ann, 9s. to 9s.; Parva Mountain, 3s. to 4s.

THURSDAY.—Market again very quiet. East Lovell receded to 3s., sellers

Taquaril not quite so firm; Grenville in demand, and scarce. East Lovell, 3s. to 4s.; Taquaril, 2s. to 30s.; Grenville, 1s. to 2s.; East Grenville, 2s. to 3s.; West Chiverton, 3s. to 5s.; Cook's Kitchen, 16 to 17s.; Prince of Wales, 14s. to 15s.; Providence, 3s. to 35s.; Tankerville, 15s. to 16s.; Tincroft, 3s. to 37s.; Van, 6s. to 15s.; Van Consols, 2s. to 2s.; West Chiverton, 34s. to 55s.; West Maria, 1s. to 1s.; Don Pedro, 2s. to 2s.; Pacific, 2s. to 3s.; Taquaril, 29s. to 31s.

FRIDAY.—Market moderately active. East Lovell advanced and Taquaril

stagnant. Wheal Seton advanced to 45, buyers. Cook's Kitchen, 17 to 18s.; Drake Walls, 1s. to 1s.; East Caradon, 4 to 4s.; East Lovell, 3s. to 33s.; East Grenville, 2s. to 3s.; Great Laxey, 18s. to 19s.; Great Vor, 7s. to 7s.; Marke Valley, 6s. to 7s.; North Crofty, 2s. to 2s.; Parva Mountain, 3s. to 4s.; Prince of Wales, 14s. to 15s.; Providence, 3s. to 35s.; Tankerville, 15s. to 16s.; Tincroft, 3s. to 37s.; Van, 6s. to 15s.; Van Consols, 2s. to 2s.; West Chiverton, 34s. to 55s.; West Maria, 1s. to 1s.; Don Pedro, 2s. to 2s.; Pacific, 2s. to 3s.; Wheat Grenville, 1s. to 1s.; Wheat Mary Ann, 9s. to 9s.; Wheal Seton, 42s. to 47s.; Australian United, 1s. to 1s.; Don Pedro, 2s. to 2s.

Saturday.—Market moderately active. East Lovell advanced and Taquaril

stagnant. Wheal Seton advanced to 45, buyers. Cook's Kitchen, 17 to 18s.; Drake

Walls, 1s. to 1s.; East Caradon, 4 to 4s.; East Lovell, 3s. to 33s.; East Grenville,

2s. to 3s.; Great Laxey, 18s. to 19s.; Great Vor, 7s. to 7s.; Marke Valley, 6s. to 7s.;

North Crofty, 2s. to 2s.; Parva Mountain, 3s. to 4s.; Prince of Wales, 14s. to 15s.;

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Saturday.—Market moderately active. East Lovell advanced and

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PATENT "DEAD BLOW" STEAM HAMMER, having retired from their  
business of Engineers, have transferred their Steam Hammer Business and  
Plant to C. S., and Co., to whom in future all communications respecting  
Steam Hammers should be addressed.

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VERTICAL AND HORIZONTAL HIGH-PRESSURE STEAM  
ENGINES.

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HORIZONTAL ENGINES, from 3 to 40-horse power,  
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March 5.	4	4	78
" 6.	1	nil.	104
" 7.	1	nil.	104
" 8.	½	½	104
" 9.	1	nil.	104
" 10.	1	nil.	104
" 11.	½	nil.	104
" 12.	1	nil.	104
" 13.	1	nil.	104
" 14.	1	½	104
" 15.	1	nil.	104
" 16.	1	nil.	104
" 17.	1	1	104
" 18.	1	nil.	104
" 19.	1	nil.	104
" 20.	1	½	104
" 21.	1	nil.	104
" 22.	½	nil.	104
" 23.	1	½	104
Total.	21½	6¾	1050

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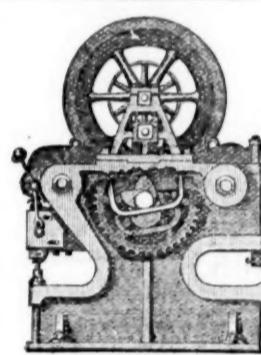
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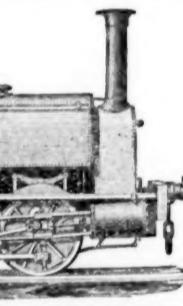
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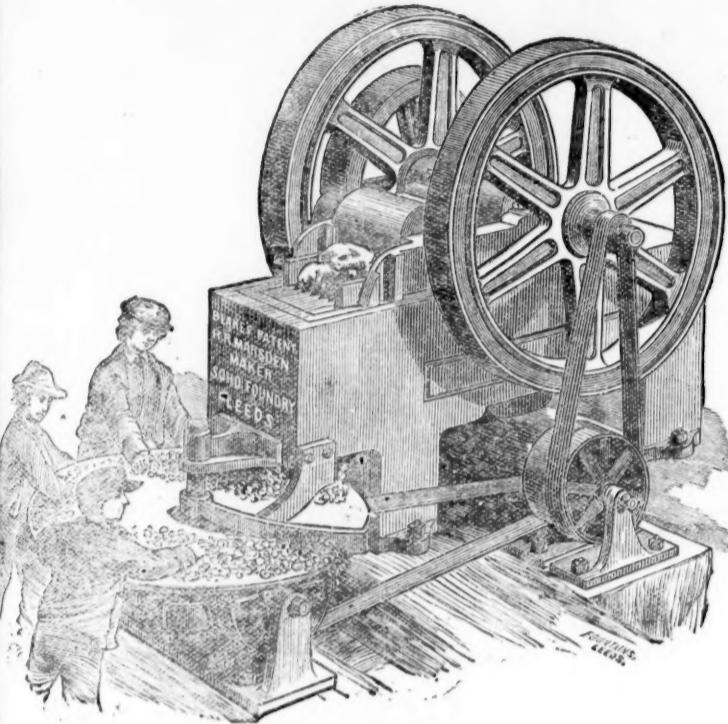
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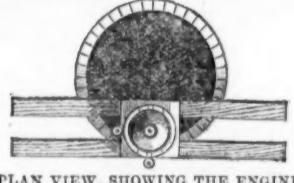
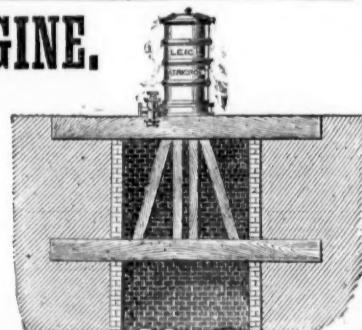
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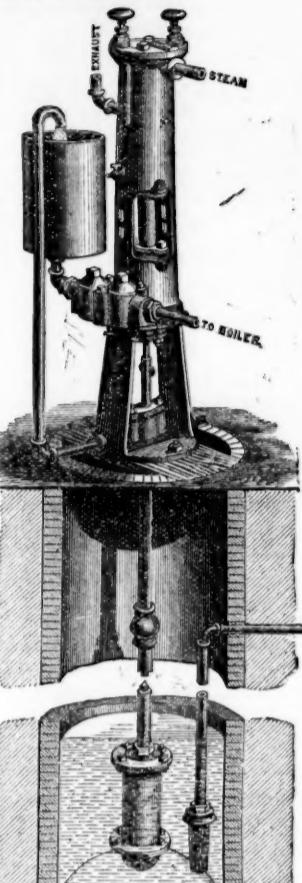
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6000 Boscombe, t, c, St. Just	1 0 0 —	—	—	0 2 0, 0 2 0, Apr.	1870	—	—
200 Botallack, t, c, St. Just	91 5 0 —	250	210 220	580 5 0, 0 0 0, Aug.	1870	—	—
2000 Bronfayl, t, Cardigan	2 10 0 —	3 1/2	3 3 1/2	2 9 0, 0 0 0, July	1870	—	—
5000 Bwthch Consols, s-l, Cardigan*	4 0 0 —	—	—	0 9 0, 0 0 0, May	1870	—	—
6400 Cashwell, t, Cumberland	2 10 0 —	—	—	0 9 0, 0 0 0, 6, Dec.	1869	—	—
916 Cargoll, t, Newlyn	15 3 7 —	—	—	16 18 0, 0 10 0, Aug.	1869	—	—
1280 Chanticleer, t, Flint	9 7 8 —	—	—	0 1 0, 0 0 0, Nov.	1868	—	—
2450 Cook's Kitchen, c, Illogan	19 14 9 —	18	16 18	4 3 0, 0 0 0, 10 0, July	1870	—	—
1000 Cornwall Hematite	10 0 0 —	—	—	0 10 0, 0 0 0, Feb.	1870	—	—
867 Cwm Erfin, t, Cardiganshire	7 10 0 —	—	—	32 3 0, 0 0 0, July	1870	—	—
128 Cwmystwyth, t, Cardiganshire	60 0 —	—	—	387 10 0, 0 0 0, July	1869	—	—
280 Derwent Mines, s-l, Durham	300 0 —	—	—	177 0 0, 0 2 10 0, July	1868	—	—
1024 Devon Gt. Consols, c, Tavistock	1 0 0 —	100	95 103	1145 0, 0 4 0, May	1870	—	—
556 Ding Dong, t, Gwylt	49 14 6 —	—	—	17 19, 0 6 0, 0 0 0, Dec.	1869	—	—
1432 Dolcoath, c, t, Camborne	32 4 6 —	128	122 1/2 127 1/2	245 2 6, 0 0 0, Aug.	1870	—	—
1280 Drake Wills, t, Calstock	2 10 0 —	1/4	1 1/2	14 11 6, 0 0 0, July	1870	—	—
6144 East Cardon, c, St. Cleer	2 14 6 —	—	—	182 10 0, 0 2 0, 0, Feb.	1870	—	—
300 East Darren, t, Cardiganshire	32 0 0 —	—	—	10 8 3, 0 0 0, 5 0, July	1870	—	—
1906 East Wheel Lovell, t, Wendron	3 9 0 —	35	32 33	12 16 0, 0 2 0, 0, July	1870	—	—
2800 Foxdale, t, Isle of Man*	25 0 0 —	—	—	75 15 0, 0 0 0, 10 0, June	1870	—	—
5000 Frank Mills, t, Christow	3 18 6 —	—	—	4 5 6, 0 0 0, 2 6, Apr.	1870	—	—
3950 Gawton, c, Tavistock	3 10 6 —	—	—	0 3 0, 0 0 0, 3 0, Jan.	1868	—	—
15000 Great Laxey, t, Isle of Man*	4 0 0 —	18	18 1/4 19	12 13 0, 0 0 0, 10 0, June	1870	—	—
3000 Great Northern Manganese*	5 0 0 —	—	—	— 5 p.c., Feb.	1869	—	—
3908 Great Wheat Vor, t, c, Helston	40 0 0 —	9	7 1/2 8 1/2	15 12 0, 0 3 6, June	1870	—	—
10240 Gunnislake (Clitters), t, c	4 19 0 —	—	—	0 1 0, 0 0 0, 1 0, July	1870	—	—
1024 Herodsfoot, t, near Liskeard	18 10 0 —	42	42 43	52 10 0, 0 1 10 0, Feb.	1870	—	—
12000 Holmboe and Kellys Bray, c*	1 0 0 —	—	—	0 3 0, 0 0 0, 1 0, Nov.	1869	—	—
10000 Killaloe, s-l, Tipperary	1 0 0 —	76	76	0 7 0, 0 0 0, 7 0, Mar.	1869	—	—
165 Levant, c, t, St. Just	10 8 1 —	—	—	1101 0, 0 2 0, 0, Aug.	1869	—	—
400 Llisbrue, t, Cardiganshire	18 15 0 —	—	—	529 0, 0 2 0, 0, Jan.	1870	—	—
3000 Maes-y-Safn, t, Flint*	20 0 0 —	—	—	4 0 0, 0 0 0, 5 0, Oct.	1868	—	—
9000 Marke Valley, c, Cardigan	4 10 6 —	7	6 1/2	6 6 0, 0 0 0, 5 0, July	1870	—	—
20000 Minera Mining Co., t, Wrexham*	25 0 0 —	—	—	278 3 3, 0 0 0, Aug.	1870	—	—
6400 New Pembroke, t, c, Par Station	7 0 0 —	8	8 1/2	0 4 0, 0 0 0, 2 1, July	1870	—	—
2000 North Levant, t, c, St. Just	10 12 0 —	11 1/2 12	11 1/2 12	1 15 0, 0 0 0, 10 0, Aug.	1870	—	—
5610 North Wheal Crofty, c, Illogan	3 11 3 —	2 1/2 2 2	2 1/2 2	0 2 6, 0 0 0, 2 6, June	1870	—	—
256 Pendarves United	86 0 —	70	60 70	10 0, 0, 0, 10 0, July	1870	—	—
6000 Penhalls, t, St. Agnes	3 0 0 —	—	—	1 9 6, 0 0 0, 4 0, July	1870	—	—
5000 Phoenix, t, Linkinhorne	50 0 0 —	—	—	456 10, 0 7 0, 0, May	1870	—	—
20000 Poldice, t, c, Linkinhorne	12 0 0 —	—	—	1 0 0, 0 0 0, 10 0, July	1870	—	—
12000 Prince of Wales, t, Calstock	0 12 6 —	3/4	3/4	0 10 0, 0 1 0, 0, Aug.	1869	—	—
1120 Providence, t, Univ. Lelant	10 6 7 —	36	38 40	98 12 6, 0 1 0, June	1870	—	—
8869 Rosewell Hill, Ransom, t	4 0 0 —	—	—	0 1 0, 0 0 0, 1 0 0, June	1870	—	—
512 South Cardon, c, St. Cleer	1 5 0 —	290	270 280	647 10, 0, 0, 5 0, July	1870	—	—
6000 South Darren, t, Cardigan	3 6 6 —	—	—	1 0 0, 0 0 0, 2 6			